

REPORT

ON THE

SURVEY OPERATIONS

OF THE

LOWER PROVINCES,

FROM

1ST OCTOBER 1853 TO 30TH SEPTEMBER 1854.

Calcutta:

THOS. JONES, "CALCUTTA GAZETTE" OFFICE.

1855.



245-

No.

FROM

THE SECRETARY TO THE BOARD OF REVENUE,
Lower Provinces,

TO

THE SECRETARY TO THE GOVERNMENT OF BENGAL,
Revenue Department.

Dated Fort William, the 15th May 1855.

SIR,

LAND REVENUE. }
E. Currie, and } Esqrs.
J. Dunbar, }
I AM directed by the Board of Revenue to submit the usual Annual Report on the Survey operations of the season 1853-54. The Board's remarks this year will be more general than they were for the two previous years, in reviewing the operations of which, the effects of the change of system introduced in 1850-51 had to be pointed out and commented on.

* No. 581, dated 14th December—received 16th December 1854.

† No. 28, dated 1st of March—received 26th March 1855.

The full Reports of the Controller of Surveys* and Deputy Surveyor General,† with their respective accompaniments, dated and received as per margin, are given in an Appendix and will be referred to frequently as the Board proceed.

2nd. This Division was strengthened in March by an additional Deputy Collector, Issen Chunder Dutt, transferred from the 4th Division, for the purpose of aiding Khetternath Mookerjee in disposing of the heavy arrears of internal demarcation, which have so long embarrassed this party. These arrears belong to Rajshahye, Pubnah and Bograh, and the Board are glad to find that by means of this extra assistance they have been sensibly diminished. Nine-hundred-and-twenty-seven villages have been disposed of, 862 of these having been measured field by field, to the number of 72,331 fields—752 villages have yet to be visited and possibly to be similarly measured, but both the Superintendent and Controller confidently hope to dispose of these during the current season. The

1st DIVISION.
Demarcation.

Purneah arrears were all but brought up by the end of the year, and as the Board write, Mr. Morris is quitting Purneah after bringing this troublesome duty to a successful termination. The Register arrears of the same District, North Bhaugulpore, Maldah and Rajshahye have also been very much reduced. The actual arrears at the close of the year were, as has lately been explained to Government, far less than what are shown in these Returns, consisting only of 52 English Mehalwar and Mouzahwar and 40 Bengali Mehalwar and Mouzahwar Registers in six Districts. It may be hoped that by this time the number of Districts in which Register arrears remain have been reduced to 3, and that Bhaugulpore, Purneah and Maldah will no longer appear in the Returns.

132—11th April.

3rd. Of 423 boundary disputes disposed of, 264 were decided by Deputy Collectors, and therefore subject to appeal. The number of cases so appealed was 54, and out of 44 appeals decided, in 2 only were the Deputy Collector's orders reversed and in 1 the case was remanded.

4th. The plans for the current year's work were to send Deputy Collector Issen Chunder Dutt to South Pubnah with three Peshkars and thirty Ameens. He was to attend the Surveyor and remove all his difficulties, at the same time that he disposed of the Khusreh arrears in 160 villages in that District. Alli Ahmed and Hurrochunder Ghose, with five Peshkars and fifty Ameens, were to go to North Pubnah, Rajshahye and Bograh and clear off the Khusreh arrears, after which the latter was to proceed to Rungpore to assist Deputy Collector Khetternath Mookerjee, who, with three Peshkars and thirty Ameens, was to commence on the demarcation of that District so as to prepare a field for the Surveyor in 1855-56.

5th. With the Field Establishment, strengthened as they have been, it is hoped that the current season will see this Division finally relieved of all arrears. It is not possible, for the reasons given in the Controller's 9th para., to distribute with any accuracy the cost of the work, Rupees 76,306, performed during the last year.

6th. The demarcative Officers are all well spoken of—Mr. Birch's zeal, and assiduity, and Mr. Morris's energy, are commended. Every credit is due to the latter for the promptitude with which he has concluded the tedious Purneah investigations. Radanath Bose has since been transferred to the regular line at Purneah, and Hurrochunder Ghose, a younger Officer, has replaced him. Similarly, Khettermohun Mookerjee will this year be replaced by a more active Officer. The preference which His Honor the Lieutenant-Governor has announced, his intention of giving to claims for promotion advanced on good service in the Survey Department, will have the effect of stimulating exertion on the part of all these Officers.

7th. Mr. Pemberton's party took the field on the 15th November and returned to Berhampore on the 15th May, having surveyed above 1,000 square miles of country in that part of the Pubnah District which lies to the North of the Ganges. The field surveyed embraced lands in nine contiguous Districts, as well as the Ganges and Juboonah Rivers, which covered an area exceeding 91 square miles. The demarcations, though made under the old system, were found satisfactory—the land-marks standing, the eye-sketched Thakbust Maps wonderfully accurate, and all boundary disputes decided. No less than 2,688 villages and arazees fell under Survey, the average size of the former being 347 acres and that of the latter from $2\frac{1}{2}$ to 3 acres.

8th. The cost of this work, which exhibits a surveyed area of 130 square miles in excess of that of the season 1852-53, was Rupees 1,443 within the grant for this party, falling at the rate of Rupees 26-7-6 per square mile, or at Rupees 5-7-9 per square mile less than the rate of the shorter area of the previous year. The Deputy Surveyor General speaks highly of the character of the work, though this has not yet been connected with any points in the Great Trigonometrical Survey.

9th. Mehalwarree work, or the computation of the area of 11,117 internal plots, cost Rupees 340, which is charged to the Civil department.

10th. The field of Survey for the current season is in that part of the District of Pubnah which lies South of the Ganges, estimated at some 950 square miles, after completing which Mr. Pemberton is to proceed Northward to Rungpore, disposing, *en route*, of the unfinished portion of Bograh.

11th. Mr. Reid's party remained throughout the year at the same strength employed in the previous year. He demarcated a field estimated at 910 square miles, comprising 2,828 villages of an average area of less than half a square mile. There was internal demarcation work in 1,841 villages, the number of plots being 9,118, but no Khusreh measurements were necessary. A larger area would have been demarcated had it not been for the large number and very intricate nature of the boundary disputes, of which no less than 880 were disposed of by the two Deputy Collectors. In some of these cases the area disputed was very large, and in others there were three, four, five, and even more claimants. It had been expected that the Ghatwalee tenures would give trouble, but many disputes having no connection with those were, Mr. Reid says, equally intricate.

12th. The appeals from the Deputy Collector's decisions in these boundary cases were 264, and of 150 of these disposed of within the year

by the Superintendent, the decisions in 12 only were amended. The remaining 114 appeals, disposed of since the close of the year, show still fewer amendments.

13th. The Registers have been well brought up, those of the 24-Pergunnahs and of fourteen Nuddeah Pergunnahs having been completed. The bulk of this work has been performed by the Superintendent himself. The duplicate copies of Thakbust Maps, for the Board's Office, are somewhat in arrear, but this is of little consequence.

14th. The total cost of the season's work (taking Rupees 1,500 per month as the Superintendent's salary) has been Rupees 53,380, which falls on the estimated area of 910 square miles, at the rate of Rupees 58-10-6, a high rate, attributable to the small size of the Circuits and to the delays occasioned by the boundary disputes.

15th. About 465 square miles of Bancoorah remained to be demarcated, and as the Board write the Thakbusts for this tract are being made over to Captain Gastrell, the Surveyor of the 4th Division, while the Deputy Collector's Establishments have been transferred to the control of Captain Smyth, the Surveyor of the 2nd Division, under the change of system lately introduced experimentally into Burdwan.

16th. Major Smyth surveyed an area of 1,219 square miles in Nuddeah, the tract being enclosed by the Hooghly, Jellinghee, Ganges, Matabangah and Choomee Rivers. It is calculated that he would have surveyed a larger tract, or 1,400 square miles, had it not been for delays caused by the absence of the necessary land-marks in some of the Pergunnahs. The Thakbusts are declared to have been excellent. The large average size of the Circuit (785 acres) is what enabled the Survey party to show so good a return. The number of Uslee villages comprised in the Circuits was only 883.

Professional.

17th. The cost of this work, which is described by the Deputy Surveyor General as being of the highest order, is Rupees 11-4-8 per square mile less than that of last year's work, while the area surveyed is 395 square miles greater. "The mileage rate Rupees 23-12-3," says Captain Thuillier, "is thus brought down to what the Bengal Surveys used formerly to yield." The Survey too has been connected with no less than eleven points of the Great Trigonometrical Survey and with the work in the 1st and 4th Divisions, the results of the process in all three cases being pronounced most satisfactory. Paras. 38 and 39 of the Deputy Surveyor General's Report, comparing the ratio of error per mile of Major Smyth's Survey, with the exact distances determined by the Great Trigonometrical Survey, bear most interesting and conclusive testimony to the accuracy of the former.

18th. The Mehalwarree calculations appear to have been comparatively light last year, comprising only 14,362 plots, the cost of which work, or Rupees 1,098, has been debited to the Civil branch of the department.

19th. The volume of Block Maps of Panchanogram, mentioned as having been sent to the Board for inspection in the Deputy Surveyor General's 43rd para., is a most complete, and will prove a most useful record. It well deserves the high praise bestowed on it by Captain Thuillier. The cost of this Survey, which involved the laying down the fullest details of property in suburbs covering 6,880 acres, has been at the rate of Rupees 165-0-6 per 100 acres. It would have been better had the Northern Division of Panchanogram been put into professional instead of semi-professional hands. A discrepancy, only conjecturally accounted for between Mr. Crow's total area and the remaining area of Panchanogram, after deducting the three Divisions surveyed by Major Smyth, is pointed out in the Deputy Surveyor General's 44th para.

20th. The party here was strengthened by the appointment of a third Deputy Collector to assist in clearing off the accumulation of boundary disputes. The Superintendent himself and one Deputy Collector superintended the demarcations, and partially prepared a field of from 1,000 to 1,100 square miles, enclosing 2,705 villages. The internal demarcations embraced no less than 19,938 plots. This process has evidently here been carried to an extreme, as remarked by the Deputy Surveyor General. It is clear from the number of plots demarcated in some of the villages, that Khusreh measurement would have been cheaper and more satisfactory. The Superintendent's attention has been drawn to this point.

21st. Unfortunately the boundary disputes within this demarcated tract have not all been disposed of, and apprehensions were entertained by the Controller, that the Surveyor might this season be occasionally detained, or have to survey double boundaries. The arrears of these cases belonging to 1852-53, 265 in number, have been cleared off, with the exception of 25, but at the close of last year there were no less than 1,061 cases pending. The Controller does not blame Mr. Campbell for this state of things. The latter, he says, would have rendered his demarcation work more complete had he had a stronger Field Establishment and been furnished with elephants, animals described as indispensable in Mymensingh.

22nd. The share which the Superintendent personally took in the demarcations prevented him from keeping down miscellaneous cases and appeals, which latter were very numerous, and no less than 219 decisions out of 508 having been appealed from, Mr. Campbell decided only 95 of these

cases, and amended the decisions in 15—126 cases stood over, but 60 of these were decided during the first quarter of the current year. None of the Mymensingh Registers have yet been completed.

23rd. The number of boundary cases has been materially reduced during these two quarters, the Board having temporarily transferred to this Division a fourth Deputy Collector. On the 31st March last, there were only 341 cases pending, but an immense number of the decisions had been appealed. The Board have re-placed Mr. D'Rozario by a young and promising Officer, Brijsoonder Mitter, of the 5th Class, whose salary Government has promised to raise on an opportunity offering. Seeing that this Deputy Collector now draws Rupees 100 less than that assigned to his Class, the Board strongly recommend that it be raised at once by the grant of a personal allowance. They are not sure that the circumstances under which Salamut Oollah is removed* from the Division are not sufficient to warrant a deduction, at least of his personal allowance of Rupees 50, in favor of Brijsoonder Mitter.

24th. The cost of the seasons' work, setting off the unfinished portion of it against the arrears disposed of belonging to the previous year, was Rupees 47,607, being at the rate of Rupees 45-5-7½ per square mile of estimated area.

25th. The demarcations for the current year were to be made in the South-east portion of Mymensingh, but the Superintendent had been directed first to concentrate his party on clearing for the Surveyor the imperfectly demarcated tract of last year. Special measures appearing necessary to enable Mr. Campbell to dispose of the accumulated boundary disputes, the Board have authorised the Deputy Collectors to dispense with local visits in cases under 50 beegahs of area, a Sketch and Memo. being prepared by the Ameen and submitted with a Report from the Peshkar for the Deputy Collector's decision. The cases coming under this head form nearly three-fourths of the whole.

26th. Mr. Campbell is very highly spoken of as heretofore, and the Board agree with the Controller, under the circumstances, in acquitting him of blame for the omissions noticed above. Of his energy, application and activity they have had ample proof, and they regret much that he is going to leave the Survey Department, and that the benefits of his experience will consequently be lost to it.

* See Controller's 36th para. and Board's separate correspondence with Government.

27th. Mr. Wyatt's party surveyed 864 square miles of Mymensing, the surveyed tract lying South of the Station, on the right bank of the Berhampooter, and embracing 58 villages of Dacca and 882 villages of four Mymensing Pergunnahs. The party did not keep the field so long as in the other Divisions, and the area consequently is shorter, while the cost by square mile is Rupees 34-7-4, or Rupees 3-4-9 more than the cost of last year's work.

28th. Mr. Wyatt, however, explains that he surveyed all the country that had been demarcated for him, and that had all boundary disputes been decided as they ought to have been, and had he been properly supplied with elephants or other means of transport, he would have completed this tract in less time than he did. The mileage cost, therefore, as the Deputy Surveyor General observes, cannot be regarded as fairly representing that of a field season's work. The average size of the Circuit was large, 586 acres, and therefore favorable to a large return.

29th. The Mehalwarree calculations comprised 23,152 plots in 727 villages, in 341 of which the intricacies of property were such as to require the calculation of the entire Thakbust area. The cost of this work amounted to Rupees 637-9-7. This, the calculation cost, however is but a small part of the actual cost of laying down so many plots on the Thakbust Map.

30th. The Thakbusts are reported to have been carefully prepared, but unfortunately about one-fourth, says Mr. Wyatt, of the maps required alterations, and revisions of the boundaries rendering necessary corresponding alterations in the professional work. Much of the field demarcated for this season is, the Board fear, liable to similar uncertainty of boundary in those villages in which disputed cases still depend, either before the Deputy Collector, or, in appeal, before the Superintendent. From the progress made in demarcations during the second quarter, the Board hope that there is no ground for the apprehensions entertained by Mr. Wyatt of an insufficient field for next year. The current season's work falls in the large Pergunnahs of Hosseinshye and Mymensingh East of the Berhampooter. There were still, the Deputy Surveyor General calculated, some 3,450 square miles remaining for survey in this extensive District.

31st. Mr. Money was relieved by Mr. Watson in February, and in the following month Deputy Collector Issen Chunder Dutt and two Peshkars' parties were transferred from this to the 1st Division. The demarcation work consisted of about 500 square miles in Moorshedabad, comprising 1,510 villages, of which more than three-fourths had to be internally plotted or measured by Khusreh. The total number

of plots brought under both processes was very large, being 122,947. The cost of this work is made to fall at the high rate of Rupees 94-4-10 per square mile, but its intricate character must be borne in mind. Besides this there were arrears of Khusreh measurement in 162 villages, and arrears of Registers in Beerbhoom, Bhaugulpore and Monghyr, all of which have now been disposed of, with the exception of one Bhaugulpore and two Beerbhoom Pergunnahs.

32nd. The boundary disputes decided were 139, and there were 16 appeals from these. Including arrears of the previous year, the Superintendent disposed of 27 appeals, reversing the Deputy Collector's orders in 18 and modifying or remanding them in 6.

33rd. The incompleteness of the village lists furnished for Moorsheadabad, for which the lax supervision of Deputy Collector Gobind Chunder Sein has been mainly to blame, necessarily affected the internal demarcations within both the surveyed and the unsurveyed tracts, and it was feared that the preparation of the Registers would disclose discrepancies and omissions which would render necessary further local investigations and occasionally measurements. It was therefore resolved, for a time at least, to concentrate the strength of the reduced Establishment on the preparation of these Registers.

34th. Subsequently it was found that the apprehended re-demarcations would not prove so extensive as Mr. Watson had at first expected, and on the professional parties being generally strengthened, it was deemed necessary to lose no time in preparing a demarcated field in Jessore for next season. Mr. Watson therefore has taken on himself the Moorshedabad Registers and has deputed his two Deputy Collectors with full Field Establishments to Jessore, which Captain Gastrell, temporarily working this year as a second Surveyor in the 2nd Division, expects to enter early in 1855-56.

35th. Mr. Watson is most favorably noticed by the Controller. His Division may now be said to be clear of all arrears, but the Moorshedabad Registers, 72 in number, will cease to be current work after this year, and must be completed before the Superintendent moves on to Jessore.

36th. Captain Gastrell's party surveyed above 1,161 square miles of that portion of the Moorshedabad District falling between Beerbhoom on the West and the Ganges and Jellinghee on the North and East. The tract included 4,072 villages and kismuts in 1,366 Circuits, of an average size of 531½ acres. The surveyed area exceeds

Survey.

that of the previous year by nearly 126 square miles, while the cost per square mile is only Rupees 25-6-11, or Rupees 4-12-7 less.

37th. The Deputy Surveyor General speaks most favorably of the work of Captain Gastrell, who has connected it with the Great Trigonometrical Survey, and with the Rajshahye and Nuddea Surveys, in a manner which the Deputy Surveyor General pronounces most creditable to his professional reputation. The mean of error in fifteen sides, for which Captain Gastrell's distances were compared with the exact distances laid down by the Great Trigonometrical Survey, was only 2 feet—80 per mile.

38th. The Mehalwarree work in this Division embraced calculations for 18,542 Chucks, aggregating an area of 48,133 acres, the cost of which, Rupees 261, is debited to the Civil branch of the Survey. Mr. Money it seems had requested Captain Gastrell to postpone his calculations, and in consequence of this postponement, the work fell into considerable arrear. Here, as well as in the 3rd Division, internal demarcation would appear to have been carried to an extreme.

39th. For the current season Captain Gastrell has, with a strong party, left his own Division to survey Bancoorah, demarcated last year by the 2nd Division. His Head Assistant is completing the Survey of the Moorshedabad District and next year a commencement will be made with Jessore.

40th. Mr. O'Donnel, of the 1st Division, relieved Mr. Kelso, of the
 5TH DIVISION. superintendence of this party in December, and surveyed
Gowalparah. 1,021 square miles of Western Gowalparah, including detached villages in Rungpore and Kooch Behar. Of this area, only 43 square miles were surveyed, Mouzahwar, the rest merely required a careful survey of the geographical features of country, composing a few large estates and the channel and churs of the Berhampooter. The jungly and hilly state of the seven Pergunnahs thus geographically surveyed was such as to throw many difficulties in the Surveyor's way, and Captain Thuillier gives him deserved credit for surmounting them so successfully. The demarcations of the large Pergunnah of Parbutjoar and of Kurribarree had been laid down (in the case of the last by previous Survey) by Mr. Bedford, on whose departure on leave Mr. O'Donnel demarcated for himself.

41st. The area surveyed is 434 square miles more than that of last year, while the cost is only Rupees 14-5-5 per square-mile, or Rupees 9-3-8 less. The style of Mr. O'Donnel's work is very highly spoken of by the Deputy Surveyor General, who regrets that it has been necessary to break up the party. Mr. O'Donnel's maps are described as far superior to those

hitherto received from Assam. Steps have been taken to mark points which will admit of this Survey's being connected with the Great Trigonometrical Survey, now passing Eastward through Rungpore. The Northern boundary, too, of Mymensingh, having been carefully, though with great difficulty laid down, a good connecting link has, as Captain Thuillier observes, been established with the operations of the 3rd Division. Mr. O'Donnel has since rejoined the professional party of the 1st Division. Mr. O'Donnel has certainly, the Board think, established claims to re-employment in an independent Survey, whenever opportunity may offer.

42nd. Mr. Porteous's party surveyed but $222\frac{3}{4}$ square miles of the
 6TH DIVISION. Island of Akyab, 91 square miles only being cultivation.
Arracan. The climate rendered the field season a short one, and the difficult character of the country made the Survey very laborious. The number of Keokships surveyed is 39, at the high cost of Rupees 290 per Keokship, or Rupees 50-11-8 per square mile. The Board fear from the Returns that the current season has been nearly lost for active operations, in consequence of the prostration by fever both of Mr. Porteous and his Assistant, Mr. Pringle.

43rd. Paras. 90, 91 and 92 of the Deputy Surveyor General's Report show Mr. Porteous to have been under a misapprehension as regards the character of the Keokships and the propriety of fixing and preserving the boundaries of these local sub-divisions. The object of the Survey is confined to showing the state of things existing at the time. The cultivated contents of each Keokship are of course known well enough, the uncultivated contents have never been defined, and the Surveyor, with the concurrence of two neighbouring Keoks, may draw his boundary line where he pleases. The proceedings of the local authorities hereafter in doubling up Keokships will be independent of, and can never deteriorate from the value of the Survey.

44th. The Board have since received from Captain Thuillier the definite propositions alluded to in his 88th para., for placing this party on an efficient footing, and have sent them down for the Commissioner's opinion. It is most desirable to prosecute this Survey, which will shortly be the subject of a separate address to Government.

45th. An important improvement has been introduced into the work
General Remarks. of last season, all the village maps now giving, in addition to the revenue name, the local names by which the village and its several sub-divisions or hamlets are familiarly known. This information will render the maps far more generally useful.

46th. The following Memorandum will show at one view the improvement in the rate of progress and the reduction in the rate of cost of Survey in the 1st, 2nd and 4th Divisions of Bengal :—

	Area surveyed.		Rate per Square Mile.		Increase of Area.	Decrease of Cost.
	1852-53.	1853-54.	1852-53.	1853-54.		
1st Division,	869·96	1000·72	31 15 3	26 7 6	130·76	5 7 9
2nd Division,	824·43	1219·67	35 0 11	23 12 3	395·24	11 4 8
4th Division,	1035·30	1161·22	30 3 6	25 6 11	125·92	4 12 7

Against this improvement there is to be set the falling off in the 3rd Division of 6,525 square miles of area, and the consequent increased cost of Rupees 3-4-9 per square mile.

47th. On the whole the Board are well satisfied with the results of the year's labors, both in the Demarcation and Professional departments, and a main source of their satisfaction is the confidence which they feel in the accuracy of what has been lately done and is still doing. Had they the means which as yet they have not, excepting in the 2nd Division, of distributing the aggregate demarcation charges over the square mile, it would be found, they think, that in the Civil department, as well as in the Professional the tendency is to increase of demarcated area and to reduction of the rate of cost.

48th. The concluding paras. of the Deputy Surveyor General's Report concern the profitable working of the Professional departments immediately under his control. The efficient management of Captain Thuillier, and the success which is attending his efforts to improve that efficiency in both the Drawing and Lithographic departments, will no doubt meet with due notice on the part of Government. So far as his proposition to employ the agency of booksellers for the sale of his maps calls for the expression of the Board's opinion, they would certainly recommend its being acted on.

49th. The most important point in the Deputy Surveyor General's Report is that summarily mentioned by him in paras. 11 to 14. The Board have since received the orders of Government for the introduction of the change there referred to. It will be in the recollection of the Lieutenant-Governor, that a long note on the subject was drawn up by Mr. Ricketts, for His Honor's consideration, when the proposed measure was communicated demi-officially to that gentleman and Mr. Currie, who shared Mr.

Ricketts's objections to the new plan and also laid before Government a statement of his views. The measure however has been determined on experimentally in one Division, and it would be out of place to discuss it further. It only remains for the Board to use their best endeavors to overcome difficulties, and to contribute so far as may be in their power to the effective working of the scheme.

I have the honor to be,

SIR,

Your most obedient Servant,

(Signed) A. GROTE,
Secretary.

APPENDIX.

No. 581.

FROM

THE CONTROLLER OF SURVEYS,

To

THE SECRETARY TO THE BOARD OF REVENUE,

Lower Provinces,

FORT WILLIAM.

Dated Burdwan, the 14th December 1854.

SIR,

I HAVE the honor to submit the General Survey Returns for the First, Second, Third and Fourth Superintendencies for the year 1853-54, ending 30th September last, together with the original communications noted in the margin, and with advertence thereto, to remark, as briefly as possible, on the progress which has been effected and the present state of the work in each of the Divisions.

No. 666, dated 25th Nov., from the Supdt. 1st or Northern Divn.
No. 21, dated 28th Oct., from the Supdt. 3rd or Eastern Divn. (with Sketch Map.)
No. 552, dated 23rd Nov., from the Supdt. 4th or Western Divn.

2nd. The annexed memorandum exhibits the nature and extent of the work effected by the several Officers attached to the 1st or Northern Division during the period under review:—

Name and description of Officer and period during which employed.	Villages demarcated and rendered ready for survey.	Boundary disputes decided.	Enquiry for excess & missing lands.	Other Miscellaneous Cases.	Appeals.	Arrears of Khushreh disposed of.	Registers, Mouzawaree & Mehalwaree, disposed of.	Duplicate Copies of Maps.	Purneah Millicks traced out.
Mr. E. G. Birch, Superintendent, from 1st October 1853 to 30th September 1854,	0	11	143	1240	44	140	13	0	0
Mr. G. G. Morris, Assistant ditto, from ditto to ditto,	0	148	61	185	4	0	3	403	194
Baboo Khettermohun Mookerjee, Deputy Collector, from ditto to ditto,	20	31	236	238	0	619	0	414	0
Baboo Radhanath Bose, Deputy Collector, from ditto to ditto, }	0	227	286	655	0	0	0	417	150
Moulvee Ali Ahmed, Deputy Collector, from ditto to ditto, }	0	2	25	193	0	41	14	0	0
Baboo Issenchunder Dutt, from 26th March 1854 to 30th September,	0	4	58	119	0	127	0	210	0

3rd. In this Division operations have been mainly confined to bringing up arrears, fresh demarcations having been made only in so far as they were absolutely required to prevent the proceedings of the Revenue Surveyor being brought to a stand still. A sufficient tract of country, consisting of 2,650 village circuits of the Pubnah District, was made over to the

Revenue Surveyor at the commencement of the field season ; and during its progress, one of the Deputy Collectors of the Division, Khettermohun Mookerjee, rendered that Officer such co-operation as was necessary. He also demarcated 20 new villages, being the extent of the fresh demarcations effected within the year, besides materially assisting to clear off the arrears of khusreh measurement in Rajshahye, which arrears will be more particularly adverted to in a subsequent para. No complaint has reached me of any inconvenience having been experienced by the Revenue Surveyor throughout his season's operations ; and the arrangements which had been planned by the Superintendent, and which were carried out by the Deputy Collector, I believe, prevented any being felt.

4th. The arrears which have had to be dealt with have been of three descriptions :—

First,—The tracing out of the rent-free holdings in Pergunnah Havellee, Zillah Purneah, which were omitted to be accounted for when that Pergunnah was surveyed.

Secondly,—The preparation of the Registers of Purneah, North Bhaugulpore, Maldah and Rajshahye.

Thirdly,—The arrears of internal demarcations in Rajshahye, Pubnah and Bograh.

5th. The difficulties attendant on the disposal of the first alluded to description of cases have so frequently and so fully been brought to the notice of the Board, that it seems unnecessary to advert to them at length in the present Report. It is sufficient to observe, that at the close of 1852-53, there were 359 of these rent-free tenures remaining to be traced out, 33 others were subsequently added to the list, making the total number to be accounted for 392, out of which 344 have been traced out or struck off the file as untraceable during the year, leaving a balance of 48 villages still unaccounted for at its close. The disposal of these arrears was entrusted to Mr. G. G. Morris, the Assistant Superintendent, aided by Deputy Collector Radhanath Bose, and the results are considered creditable to the above Officers, who have, moreover, in attaining them, decided the large number of 375 boundary disputes, together with a proportionate amount of other cases, the details of which will be found on referring to Statement No. 1.

6th. The bringing up of the arrears of Registers of Purneah, North Bhaugulpore, Maldah and Rajshahye has been in the hands of the Superintendent Mr. Birch, the Assistant Superintendent Mr. Morris, and Deputy Collector Ali Ahmed. The last-named Officer was wholly engaged in this duty. The Vernacular Registers of 30 Pergunnahs have been completed within the year, viz.:—

		<i>Pergunnahs.</i>	<i>Villages.</i>
By MR. BIRCH,	Maldah and Rajshahye,	13	2,800
By MR. MORRIS,	1 North Bhaugulpore and 2 Purneah,	3	728
By ALI AHMED, Deputy Collector,	Rajshahye and Maldah,	14	2,441
Total,		30	5,969

The Registers of 21 of the Pergunnahs, containing 3,173 villages, have also been prepared in English in the Offices of the Superintendent and the Assistant Superintendent. These results may be considered sufficient. Mr. Birch explains that the preparation of the Maldah and Rajshahye Registers has been tedious and difficult, owing to the Pergunnahs being much intermixed and to several of them having villages detached in other Districts. In consequence also of the original demarcation proceedings not having been effected in so complete a manner as

could have been desired, local re-investigations and re-demarcations were indispensable before the Registers could be finally disposed of. These had to be effected under the orders of Deputy Collector Ali Ahmed, and the Superintendent reports that as much progress in advancing the registry work has been effected by that Officer as could, under the above unfavorable circumstances, be reasonably looked for.

7th. The clearing off the arrears of internal measurements in the Districts of Rajshahye and Pubnah has remained under the supervision of Mr. Birch himself, aided throughout the season by Deputy Collector Khettermohun Mookerjee, and during the latter part of it, viz., from 1st April 1854, by Deputy Collector Issenchunder Dutt, who was transferred from the 1st Division for the express purpose of aiding the Superintendent to dispose of the arrears. The number of villages which were awaiting internal delineation at the close of the year 1852-53 was 1,471, an addition of 97 villages (including 14 of Maldah) has been made to the above number during the past year, making the total number for disposal 1,568. Of these, deducting 46, which have been struck off, as having been found on enquiry not to demand internal delineation, 927 have been actually subjected to internal plotting or to a field by field measurement, viz., 62 to the former and 865 to the latter process. These villages comprise no less than 72,331 fields or plots. The out-turn is a considerable improvement on those attained during the two preceding seasons, and the results may be deemed satisfactory and creditable to the Superintendent and to the Deputy Collectors Khettermohun Mookerjee and Issen Chunder Dutt.

8th. The other current work which has been performed, as per details shown in Statement No. 1, does not require to be adverted to at length in this Report. The arrears are not heavy under any of the headings, compared with the number of cases which were under trial during the year and the number which were disposed of. Four hundred and twenty-three (423) boundary disputes were disposed of, and of these 264 were cases decided by the Deputy Collectors and were consequently liable to be appealed to the Superintendent. The actual number so appealed was 54, or about 20 per cent. on the decisions. Out of the 44 appeals decided, the Deputy Collector's decisions were reversed in two cases, and one case was returned for re-investigation. These results may be considered satisfactory.

9th. The expenses of the 1st Division Superintendency are entered in the Statement furnished by the Superintendent at the very high figure of Rupees 76,306, but of this sum the salary of the Superintendent for the first four months of the official years (October to January) is not strictly chargeable to the survey, the appointment of Superintendent having during the above period been held by Officers who never joined the Department. Deducting however Rupees 4,000, we still find the expenses of the Division to stand at the large sum of Rupees 72,306, almost the whole of which is chargeable to arrears. The current demarcation work has been merely nominal, and the cost of it does not admit of being calculated. In like manner it is very difficult to ascertain what portion of the total outlay ought to be charged to the Purneah work and what portion to the clearing off of the arrears in Rajshahye, Pubnah and Maldah. Any estimate, therefore, which may be made as to the rate at which the arrears of khushreh and of internal demarcations in Rajshahye, Pubna and Maldah have been disposed of, must be considered an approximate one only. The Superintendent, in a letter dated the 9th instant, states his inability to furnish the memorandum (Statement No. 5,) showing what portion of the sums expended during the year have been expended on old and what portion on new work, and as the memorandum, if furnished would, as pointed out above be only approximately correct, it seems useless to prosecute the attempt.

10th. The arrangements which have been made for carrying on the work of the 1st Division during the current field season are briefly as follows:—Mr. Assistant Morris is to

complete what remains to be done in Purneah, which Mr. Morris calculates will occupy him till the end of January, but which the Superintendent thinks cannot well be completed before the end of February. The latter estimate is perhaps the more correct one.

11th. Deputy Collector Issen Chunder Dutt will render complete what remains to be done in the tract of country in South Pubnah, which is to come under survey during the present field season. The tract of country is stated to be an adequate one, but the papers connected with some of the Hulkas require revision, which will, I anticipate, be effected in sufficient time to obviate delay to the Surveyor's progress. Baboo Issen Chunder Dutt will also co-operate with the Revenue Surveyor as far as may be necessary in the field, and will bring up the arrears of khusreh measurements in South Pubnah. To aid in the above work, he will have the assistance of 3 Peshkars and 30 Ameens. It is necessary to observe that the arrears of khusreh in South Pubnah have not hitherto been shown in the Statements. They amount to 160 cases, making the total number of villages still in arrear for khusreh measurement 755. These 160 cases will be included as arrears in the current year's returns.

12th. Two of the remaining Deputy Collectors, Ali Ahmed and Hurro Chunder Ghose, will be employed in clearing off the arrears of khusreh measurement in Rajshahye, North Pubnah and Bograh. The former Officer will have 2 Peshkars and 20 Ameens, and the latter, who has been lately posted to the 1st Division (in the place of Radhanath Bose, transferred to the Purneah Collectorate,) will be aided by 3 Peshkars and 30 Ameens. The demarcation of the Rungpore District will be at once commenced on by the 4th Deputy Collector, Baboo Khettermohun Mookerjee, who will have under him 1 Peshkar and 10 Ameens of the regular Field Establishment, and 2 Peshkars and 20 Ameens temporarily detached for the purpose from the 4th or Western Division, where their services are not at present required. On the completion of the Bograh arrears, Deputy Collector Baboo Hurro Chunder Ghose, with his Field Establishment above enumerated, will join his brother Officer in Rungpore, and by the joint efforts of these Officers, a sufficient field will, I trust, be got ready for the Surveyor against next season. Mr. Birch will exercise a general supervision of the work going on under his four Deputy Collectors in the Districts of Rajshahye, Bograh, Pubnah and Rungpore. It has I believe been decided that Mr. Morris is to be removed from the Survey Department on the completion of the Purneah work, so that his valuable services cannot be counted on beyond another two or three months at the utmost.

13th. Having obtained the temporary aid of a part of the 4th Division Field Agency, it has not been necessary for the Superintendent 1st Division to solicit from Government a renewal of the grant for clearing off the arrears in khusreh of this Division, which was allowed for a further period of one year, from 1st December 1853, under the orders of Government dated the 22nd idem. There is a sufficient surplus of the old grant in hand to admit of the employment of an extra force of 3 Peshkars and 30 Ameens (these men will be employed under Issenchunder Dutt in South Pubna as explained in para. 11th,) and with the aid of the strong aggregate force of 4 Deputy Collectors, 11 Peshkars and 110 Ameens, the Superintendent will, I confidently expect, not only clear off all the arrears of his Division during the year, but will also have a full season's work prepared for his Surveyor in Rungpore against field season 1855-56.

14th. It only remains at this stage of my Report to place on record my opinion of the manner in which the several Divisional Officers have conducted their duties during the year. I have had every reason to be satisfied with the zeal and assiduity displayed by the Superintendent, Mr. Birch, in the difficult task of managing the multifarious duties of the Division, and I fully concur with the Superintendent in the favorable notice recorded in his 12th para. of

the zeal and energy shown by Mr. Assistant Morris in dealing with the Purneah arrears. Both Messrs. Birch and Morris are, in my opinion, able and intelligent Officers.

15th. Deputy Collectors Khettermohun Mookerjee and Radhanath Bose appear to have worked diligently and well throughout the year. The former Officer is however stated by the Superintendent to be physically unfit for the duties of a Survey Deputy Collector, and I trust therefore a convenient opportunity may be taken to supply his place with a younger and more active Officer. Baboo Radhanath Bose has already been transferred to the general line. Mr. Morris, under whose immediate orders this Deputy Collector has been employed in Purneah, regrets that the transfer should have taken place, as he has had every reason to be satisfied with him as a subordinate Officer. The Deputy Collector has certainly had many difficulties to contend with in dealing with the Purneah work, and the success which has attended his endeavors to overcome them during the year under review is very creditable to him. I attribute it however chiefly to the circumstance of his having had a superior Officer immediately at hand to check and supervise his proceedings. In former years, owing to the absence of any such check, his proceedings did not afford satisfaction. I concur with the Superintendent, Mr. Birch, that on the whole the Deputy Collector's removal from the Department is not to be regretted.

16th. Deputy Collector Ali Ahmed is stated by the Superintendent to be an efficient Officer, but to have labored under great disadvantages in having had to prepare the Registers which were entrusted to him from incomplete data. The notice made of Deputy Collector Issenchunder Dutt, who was appointed to this Division at the end of March, is very favorable. The alacrity which was displayed by him in proceeding to join the Division, on the occasion of his being transferred to it from the 4th Division, has already been reported by me to the Board in terms of commendation.

2nd or Southern Division. 17th. The 2nd or Southern Division has had attached to it the Officers mentioned below:—

- MR. H. M. REID, Superintendent.
 BABOO DOORGAPERSAUD GHOSE, } Deputy Collectors.
 ,, TARACHAND GHOSE, }

The following memorandum exhibits the nature and extent of the work effected during the period under review:—

Name and designation of Officer.	Villages demarcated and rendered in every respect ready for survey, internal measurement, &c., inclusive.	Boundary disputes decided.	Enquiries regarding excess and missing lands.	Appeals.	Other miscellaneous works.	Registers, Mouzaware & Mehalware, completed.	Duplicate Copies of Maps.
Mr. H. M. Reid, Superintendent,...	0	48	927	164	139	18	320
Baboo Doorgapersaud Ghose, Deputy Collector, }	1,279	358	347	0	430	1	1,322
Baboo Tarachand Ghose, Deputy Collector, }	1,549	526	230	0	585	2	1,473

18th. The demarcation of the Bancoorah District was commenced in November, and the operations were carried on under the management of the Deputy Collectors, aided by their regular Field Establishments, until the latter part of June. The tract of country, which has been demarcated and has been rendered in every respect ready for survey, including decision of boundary disputes and internal plotting where necessary, consists of 2,828 villages comprised in 2,222 Hulkas, and covering an estimated area of 910 square miles. The village circuits, it will be observed, are very small ones, being on an average considerably less than half a square mile each in extent, and it is in part owing to this circumstance, but more especially in consequence of the large number and the very intricate nature of the boundary disputes which have been met with in the course of the operations, that a larger square mile area has not been attained.

19th. The internal plotting which has had to be resorted to in Bancoorah has not been excessive, and in no one instance has it been found necessary to have recourse to a field by field measurement. Only 1,841 villages out of 2,828 have had to be subjected to internal plotting, the number of plots contained in them being 9,118, or a small fraction less than 5 plots for each village.

20th. Much difficulty was expected to be met with in deciding boundary disputes, in which the holders of the Ghatwalee tenures were parties interested, and though they certainly occasioned a great deal of trouble, yet I think, that on the whole many of the other cases which had to be dealt with in the course of the season's operations were more intricate and difficult of adjustment. In a large number of the cases the litigated area was claimed by three, four, five, and sometimes by even a larger number of distinct parties, and in 26 of the suits decided, the areas in disputes varied from 1,000 to 5,000 beegahs. The Board will observe that out of the 884 disputes which were on the files of the Deputy Collectors during the year (*viz.* 359 on the file of Doorgapersaud Ghose and 529 on that of Tarachand Ghose) only 4 cases remained undisposed of at its close. The results are considered highly creditable to the above Officers.

21st. The number of appeals preferred to me from the decisions of the Deputy Collectors in boundary dispute cases connected with the Bancoorah work was 264, or about 30 per cent. on the decisions. In twelve (12) cases only out of the appeals decided by me up to the close of the year (*viz.* 150) did I find any cause for interfering with the Deputy Collector's decisions. The 114 appeals, which are shown in the Statements as still pending, have all of them been since cleared off, the ratio of interference with the Deputy Collector's decisions being still less than in the cases previously disposed of.

22nd. The Mouzawaree and Mehalwaree Registers in English and Bengalee of 7 Pergunnahs of the 24-Pergunnahs District, and of 14 Pergunnahs of the Nuddea District, making a total of 21 Pergunnahs, have been completed during the period under review, as per following details :—

	<i>Pergunnahs.</i>	<i>Villages.</i>
By the SUPERINTENDENT,	18	2,844
By DOORGAPERSAUD GHOSE,	1	69
By TARACHAND GHOSE,	2	726

The 24-Pergunnahs Registers have been finally disposed of, and have been forwarded to the Collector, to whom also the whole of the remaining Survey Records of the District

have been consigned. It may be convenient in this place to mention, that the volumes of Mehal-waree maps, which were outstanding for certain Pergunnabs of the 24-Pergunnabs District, have now been finally transmitted for record in the Board's and the Collector's Offices.

23rd. The only other heading in the Statement to which reference appears to be necessary in this Report, as far as regards the progress which has been effected and the arrears which are still outstanding, is that of duplicate copies of maps, the arrears of which are somewhat larger (1,206) than could be desired. The delay in preparing these copies has however been unavoidable. They are now being gradually disposed of. The arrears under all the other headings, excepting the appeals which I have adverted to in para. 21st, as having already been cleared off, are merely nominal.

24th. The cost of demarcation operations in Bancoorah, as calculated on the sum of Rupees 53,380, shown in the statement of sums drawn and expended, as having been the amount actually disbursed in the 2nd or Southern Division during the year, stands at Rupees 58-10-6 per square mile, assuming that 910 square miles of country have been demarcated, and at Rupees 24-0-4½ per Hulka. These high rates are attributable to the small size of the village circuits and to the large number and intricate nature of the boundary disputes which were met with in the course of the season's work. In my statement of the expenses actually incurred, I have included my own salary at the rate of that of Superintendent of Survey, viz., Rupees 1,500 per mensem: the excess above that sum, which I have been in receipt of since the 6th March last, does not seem to be fairly chargeable to the 2nd Division, but to be chargeable to the appointment of Controller, and it has therefore not been included by me in estimating the cost of the demarcation operations.

25th. For the current field season's work, the following arrangements have been made. The tract of country awaiting demarcation in Bancoorah, which contains an estimated area of about 465 square miles, has already been commenced on and will first of all be got out of hand. On its completion, the District of Burdwan will be proceeded with, but whether the demarcations will continue to be made under the management, as heretofore, of a separate Superintendent, or whether other arrangements which have been under contemplation will be adopted in carrying them out, has not, I believe, as yet been finally determined.

26th. The survey of the Bancoorah District has already been commenced under the auspices of Captain Gastrell, the Revenue Surveyor of the 4th or Western Division, by whom it is proposed the District shall be completed. A compact area of about 500 square miles, comprised in 952 Thakbusts, has been made over to Captain Gastrell. The Revenue Surveyor of the 2nd Division will finish off the survey of Nuddea, comprising 4 whole Pergunnabs, Plassy, Belgaon, Khosaulpore and Guznobepore, and the moieties of two other large ones (Bugwan and Shaboozail,) and covering a tract of about 800 square miles. The remaining Thakbusts of the Nuddea Districts have been duly made over to Major Smyth.

27th. The 2nd or Southern Division has had the advantage of the services of the two same Deputy Collectors (Baboos Doorgapersaud Ghose and Tarachand Ghose) who have been attached to it for several years past, and the zeal, ability, patience and intelligence displayed by both of these excellent Officers in the execution of the duties entrusted to them have continued to merit my fullest approbation.

28th. The following memorandum shows the names and designations of the Officers who have been engaged in the 3rd or Eastern Division, together with the nature and extent of the work effected by each of the Officers in question :—

Name and designation of Officers.	Villages demarcated in advance of survey.	Boundary dispute Cases.	Enquiries regarding excess and missing lands.	Other Miscellaneous Cases.	Appeals.	Duplicate Copies of Maps.
Mr. C. H. Campbell, Superintendent,	1,189	86	0	314	102	1,830
Baboo Joychunder Mujoomdar, Acting Deputy Collector,	1,516	220	19	540	0	1,632
Mr. E. D'Rozario, Deputy Collector,	0	106	0	93	0	0
Moulvee Selamut Oollah, Deputy Collector,	0	96	0	70	0	0

29th. Two of the Officers of the Division, viz., Deputy Collectors Mr. D'Rozario and Moulvee Selamut Oollah, were almost wholly occupied in clearing off the arrears of boundary disputes (265 in number) which remained outstanding at the close of the previous season, while the attention of the Superintendent himself, and of his remaining Deputy Collector, Joychunder Mujoomdar, was devoted to the current demarcations.

30th. The old boundary disputes have been cleared off, with the exception of 25, which are still pending on the file of Deputy Collector Selamut Oollah. The newly demarcated country comprises an area of 2,705 villages, and covers an extent of from 1,000 to 1,100 square miles. The internal demarcation work of the circuits contained in it, with the exception of 37 villages, which could not be finished owing to the setting in of the rains, has been rendered complete wherever that process was necessary to be resorted to. The number of villages which have been internally plotted has been 1,606, comprising 19,938 chucks, and in some of the village circuits, it will be observed, from Mr. Campbell's 6th para., that the plotting has been very extensive. The Superintendent enumerates 13 villages, in each of which the number of internal plots is above 200; in one village circuit the number is stated to be no less than 770, while in another village the number of mehals to which its internal plots appertain is shown to be no less than 91. In no one instance has the simple khusreh or field by field measurement been resorted to during the period under review.

31st. The position of the tract of country which has been demarcated for the Revenue Surveyor will be found laid down in the annexed sketch map which has been furnished by the Superintendent, and the extent of the tract in question will, I anticipate, afford the Revenue Surveyor a full season's employment. The only thing to be regretted is that the boundary disputes in the tract in question could not be decided simultaneously with the demarcation. There were no less than 1,061 such cases pending in the tract alluded to at the close of the survey year, and as a proportion of these are on the exterior boundaries of villages, there is reason to fear that some delay and inconvenience may be met with by the Revenue Surveyor, owing to his having to survey double boundaries. Prompt measures have been adopted to obviate such contingency, and the nature of them will be more particularly adverted to in a

succeeding paragraph. I cannot attach any blame to the Superintendent on the subject of the undecided boundary disputes having accumulated to the great extent which they have done. It has evidently been his chief endeavour, and very naturally so, to prepare a sufficient field for his Surveyor, but the means at his disposal were insufficient to enable him to attain this object, and at the same time to decide all the disputes which sprung up in the tract of country under demarcation. Mr. Campbell had himself to undertake the charge of a portion of the Field Establishment and aided in the work by one Deputy Collector only, and having the general superintendence of the Division to attend to besides, the boundary dispute cases could not possibly be decided so promptly as could have been desired. The Superintendent and his Deputy Collectors were moreover without elephants, a loss which, in a District like Mymensingh, must seriously have affected progress.

32nd. The Superintendent, in his memorandum of expences incurred in effecting the new work, and the old work respectively, puts down the cost of the former at Rupees 35,378, and of the latter at Rupees 12,229. If we calculate the cost of the fresh demarcations in accordance with the Superintendent's estimate, we shall find, taking the area which has been demarcated at 1,050 square miles, that the square mile rate of cost of the new work has been Rupees 33-12-1 only; but this estimate does not seem to me to be altogether a correct one, for, as remarked above, the work in the freshly demarcated country is still incomplete, there being no less than 1,061 boundary disputes still outstanding in it; and by the time they shall have been adjusted, the aggregate cost of the work will have been considerably increased. I think the fairest way of forming an estimate of the actual rate of expense incurred will be to calculate it on the gross sum expended during the year, inclusive of that disbursed in the adjustment of the old boundary disputes, the latter being allowed as a set-off against the much larger number of disputes of the past season, which are still outstanding. If this method of calculating the expenses be adopted, it will be found that the square mile rate of cost has been Rupees 45-5-7½, while that of the village circuit cost, including internal demarcation where necessary (1,926 Hulkas having been disposed of,) has been Rupees 24-11-5 per circuit.

33rd. The number of miscellaneous cases and of appeals which remained undisposed of at the close of the year was rather heavy. There were 568 of the former description, and 124 of the latter description of cases outstanding. The Superintendent has sufficiently explained why the appeals could not be cleared off within the year. The number of original decisions in boundary dispute cases has been 508. Two hundred and nineteen (219) of these decisions, or a per-centage of 42 per cent. have been appealed against, a result which corroborates the remarks recorded in the Superintendent's 7th para., regarding the litigious character of the Mymensingh Zemindars. Out of the 95 appeals in boundary dispute cases, which were disposed of by the Superintendent, a reversal or modification of the orders which had been passed by the Deputy Collectors was considered necessary in 15 cases, that is to say, in 16 per cent. out of the number of appeals disposed of.

34th. No whole Registers of any of the Mymensingh Pergunnahs have as yet been finally disposed of, although 2,781 villages have been entered in the Registers during the period under review. Now that so large a portion of the District, including several whole Pergunnahs, has been surveyed, the Superintendent should use his best endeavours finally to dispose of some of these Registers.

35th. During the early part of the current field season, the Superintendent will, under the orders of the Board, strictly confine his attention and that of his subordinate Deputy Collectors and their Field Establishments to the clearing off of the heavy arrears of boundary disputes still outstanding in the tract of country which is about to come under survey. These

boundary disputes are stated in the Superintendent's letter, No. 29, dated the 3rd November last, to be of the following three classes:—

Under 10 beegahs each,	421
Above 10 beegahs and under 50 beegahs,	337
Above 50 beegahs,	333
	Total, 1,091

This total is slightly discrepant with that shown in Statement No. 1, which shows the number of pending cases to be 1,086 only. Under the recent orders of the Board, conveyed in their letter No. 97, dated the 24th ultimo, it will not be absolutely necessary for the Deputy Collectors or the Superintendent to visit the sites of any disputed areas less in extent than 50 beegahs each. In cases under 10 beegahs, it has been directed by the Board that the local investigation shall be made by the Ameens, and in cases under 50 beegahs that it shall be made by the Peshkars, the Superintendent and his Deputy Collectors confining their local visits to cases of greater extent than 50 beegahs each, or to such others of lesser extent, in which they may have reason to feel dissatisfied with the Ameen's or Peshkar's Report, or to which, for any other sufficient reasons, they may consider a personal visit desirable.

36th. In aiding him to clear off these boundary disputes, the Superintendent will have the services of two of the Deputy Collectors who were employed under him last year, Moulvee Selamut Oollah and Baboo Joychunder Mujoomdar. He will also have Baboo Brojosoonder Mitter, who has lately been transferred from the Dacca Collectorate to the Survey Department, in the place of Mr. E. D'Rozario. The services of Mr. Pogson, Deputy Collector of the Mymensingh Collectorate, have also been temporarily placed at the disposal of the Superintendent, to aid in the disposal of these arrears. When the boundary disputes have been finally cleared off, demarcations will be proceeded with in the tract of country to the extreme South-eastward of the Mymensingh District, adjoining the boundaries of Dacca, Tipperah and Sylhet.

37th. In the 43rd para. of my last year's Report, I submitted a proposition in favor of an increase of salary to the Serishtadar and three other Omlahs on the Superintendent's Ministerial Establishment, and the Board, in their 43rd para., recommended the proposition to the favorable consideration of Government. No orders having as yet been received from Government on the subject, I beg to request that the proposal may again be brought to their notice.

38th. Mr. Campbell, the Superintendent of this Division, is, in my opinion, a very energetic and able Officer, and he has (I feel assured) done his best to have a full season's work demarcated for his Surveyor, and at the same time to prevent the boundary dispute cases from accumulating. In the former endeavour he has been successful, but not in the latter. The accumulation of the undecided boundary dispute cases is not, however, to be attributed to any neglect or want of exertion on the part of the Superintendent, but on the contrary it has been occasioned by unavoidable circumstances, as has been explained by me in preceding paras. of this Report.

39th. Mr. E. D'Rozario and Moulvee Selamut Oollah, Deputy Collectors, are stated by the Superintendent not to possess the physical activity necessary to ensure efficiency as Survey Officers. Owing to this circumstance, and to the want of elephants, and to the sites of the boundary disputes which were entrusted to them for decision being widely scattered, and many of them being very inaccessible, the Superintendent thinks that a larger out-turn of work than

what has been performed by them could scarcely have been looked for at their hands. Mr. E. D'Rozario, who is an old and deserving Officer, has since been transferred to the Dacca Collectorate. The Superintendent recommends that the first favorable opportunity may be taken of transferring Selamat Oollah to the same branch, and as he would appear to be altogether unfitted for survey work, I trust that the Board will bear in mind the suggestion.

40th. Mr. Campbell speaks in high terms of the manner in which Acting Deputy Collector Joychunder Mujoomdar has conducted the duties entrusted to him, and I believe the recommendation to be just.

41st. The following memorandum shows the names and designations of the Officers employed in the 4th or Western Division, together with the nature and extent of the work disposed of by them:—

Name and designation of Officer.	Villages completely demarcated.	Boundary disputes decided.	Cases regarding excess & missing land.	Miscellaneous Cases.	Appeals.	Registers.
Mr. A. Money, Superintendent, from 1st October 1853 to 20th February 1854,	0	2	1	504	10	0
Mr. Watson, Superintendent, from 21st February to 30th September 1854,	0	3	89	495	17	13
Ditto ditto, Assistant Superintendent, from 1st October 1853 to 20th February 1854, ...	0	0	1,239	456	0	0
Baboo Issenchunder Dutt, Deputy Collector, from 1st October 1853 to 25th March 1854, }	0	8	362	342	0	19
Baboo Tarucknath Ghose, Deputy Collector, from 1st October 1853 to 30th Sept. 1854, }	455	31	69	1,122	0	0
Moulvee Ahsan Ahmed, from ditto to ditto, ...	826	95	256	924	0	0

42nd. The Superintendent Mr. Money and two of his Deputy Collectors, Baboo Tarucknath Ghose and Moulvee Ahsan Ahmed, were engaged in the current demarcation work in Moorsshedabad, and in bringing up the 162 villages of the previous year, which were in arrears for khusreh measurement, Mr. Money quitted the Superintendency on the 20th February and was succeeded by Mr. Watson. The demarcation of the District of Moorsshedabad has been completed, and the arrears of internal measurements have been disposed of. The out-turn of work shows that 1,510 villages, comprised in 714 Hulkas and covering an estimated tract of 500 square miles, have been demarcated. The cost of the new work, calculated on the sum which Mr. Watson considers ought to be charged to that heading, and which estimate seems to me a fair one, is Rupees 94-4-11 per square mile, or Rupees 66-2-11 per Hulka. This is a heavy rate, but it must be borne in mind, that the work was extremely intricate in a large majority of the Hulkas, in 515 out of the total number which came under demarcation, internal plotting having had to be resorted to, and in 46 out of the residue, the tedious process of a simple field by field measurement having been obliged to be had recourse to. The Hulkas (561 in number,) which were thus internally plotted, or measured by khusreh, contained the very large number of 1,22,947 chucks or fields.

43rd. Mr. Watson was engaged first of all in his capacity of Assistant Superintendent, and afterwards as Superintendent, in bringing up the arrears of Registers of Bhaugulpore and Monghyr, and in miscellaneous enquiries connected with them. He remained at Bhaugulpore in the prosecution of this duty until the end of March, 8 out of the 9 out-

standing Registers of these two Districts having been completed by him, comprising 3,865 villages, and the one outstanding Pergunnah, comprising 2,552 villages, being in an advanced state of preparation.

44*th*. To Baboo Issenchunder Dutt was entrusted the preparation of the Beerbhoom Registers, and he was engaged in the work until the end of March, when he was transferred to the 1st Division, where his services were urgently required to aid the Superintendent in clearing off the arrears of khusreh measurement. Issenchunder Dutt, before leaving the 4th Division, prepared the Registers of 19 Beerbhoom Pergunnahs, comprising 2,953 villages, a result which may be considered creditable to him. The present Superintendent, Mr. Watson, has subsequently disposed of the Registers of 5 Pergunnahs of the same District, containing 2,219 villages, which may also be considered very satisfactory.

45*th*. From the total number of 139 original decisions passed by the Deputy Collectors during the year in boundary dispute cases, the number of appeals have been 16 only, or not quite 12 per cent. on the decisions. Out of the 27 appeals, in which orders were passed by the Superintendent during the year, the Deputy Collector's orders were upheld in 15 cases, in 6 their decisions were reversed, in 1 modified, and 5 cases were restored to their files for re-investigation. The ratio (45 per cent.) of interference with the Deputy Collector's decisions is a high one.

46*th*. With the exception of the Moorshedabad Registers, 72 in number, and none of which have as yet been commenced on, and the arrears of miscellaneous cases (833) which have already been separately reported to the Board, there are no arrears worth speaking of under any of the headings. The Moorshedabad Registers will be adverted to more particularly when considering the plan of operations of the current season. It is satisfactory to observe, that all the duplicate copies of mehalwaree and khusreh maps have been brought up, the small number of 14 only excepted. The Superintendent should lose no time in binding up these maps in Pergunnah volumes and in forwarding them to the Board and the Collector.

47*th*. The plan of operations for the current season is briefly as follows :—

The Revenue Surveyor, Captain Gastrell, will complete the survey of Moorshedabad, and will, in addition, take up a part of the Bancoorah District, which has been demarcated for him by the Superintendent, 2nd or Southern Division. The Superintendent and his two Deputy Collectors will, during the earlier part of the field season, be engaged in making such re-investigations and re-demarcations as may be necessary to enable them to prepare the Moorshedabad Registers, and to assist them in this work, they will have the aid of a part of the regular Field Establishment of the Division to the extent of 4 Peshkars and 40 Ameens. The residue of the Field Establishment, consisting of 2 Peshkars and 20 Ameens, has already been made over to the Superintendent, 1st Division, for employment on demarcation duty in the District of Rungpore. It was at one time supposed, on the strength of a Report furnished by the Superintendent, that very extensive re-enquiries and re-demarcations would have to be made in Moorshedabad, but there is now every reason to hope that they will not be necessary to nearly so great an extent as was at first supposed. The matter is still under investigation, and when it has been clearly ascertained to what extent these re-enquiries will, in reality, have to be resorted to, the Superintendent and one of the Deputy Collectors, with such detail of the regular Field Establishment as may be required to complete them, will remain at Moorshedabad for the purpose, the other Deputy Collector with the rest of the Field Establishment proceeding to commence the demarcation of the District of Jessore.

48th. The successive Superintendents, Messrs. Money and Watson, have been zealous and assiduous in the conduct of the duties of this Division during the year under review, and the results are on the whole an improvement on those of the last few years. I consider Mr. Watson a very intelligent and painstaking Officer, and his management of the Registry work, in which description of duty he has had much experience, as well as of the other work which has fallen to his share since he assumed charge of the Superintendency, has been highly satisfactory.

49th. Mr. Watson records a very favorable opinion of the two Deputy Collectors, Tarucknath Ghose and Moulvee Ahsan Ahmed, who have been attached to the Division throughout the year, and of Deputy Collector Issenchunder Dutt, who was attached to it during the earlier portion of it, and I have every reason to believe that the commendation is well merited, especially so in the case of the first-named Officer.

50th. In furtherance of the instructions contained in the 2nd para. of the Board's letter, No. 4, dated the 24th March 1854, I requested the Superintendents of the several Divisions, when furnishing their Annual Reports, to submit the names of such of their Deputy Collectors as they might consider entitled to promotion from the classes in which they had been assigned rank by the Government to the next higher classes, it having been my intention, on receipt of these recommendations, to propose the name of one Officer for promotion out of each Class for all the Divisions jointly. The Superintendents, 1st and 3rd Divisions, have not recommended any of the Officers subordinate to them for promotion to the next grade. The Superintendent, 4th Division, makes a strong recommendation in favor of the promotion of Tarucknath Ghose, Deputy Collector, from the 3rd to the 2nd Class, and I also, as Superintendent of the 2nd Division, have much pleasure in bringing forward the excellent claims of the two Deputy Collectors attached to my Superintendency. Both these Officers (Doorgapersaud Ghose and Tarachand Ghose) already occupy a high position in the 3rd Class of Deputy Collectors, and they follow each other immediately on the list. I beg therefore that the Board will recommend both of them for promotion at the earliest possible date, and that the claims of Tarucknath Ghose may be also favorably considered when it comes to his turn for promotion according to the position which he at present holds on the list. If forced to confine my recommendation to one Officer of each Class, I would beg to name Doorgapersaud Ghose for promotion first, because he has been longer in the service than his colleague, Tarachand Ghose, and secondly, because he is already one higher than him on the list. In point of efficiency I can make no distinction whatsoever when weighing the merits of these two excellent Officers.

51st. Mr. Birch, the Superintendent, 1st Division, has not made any special application in favor of Baboo Issenchunder Dutt, who is at present attached to his Superintendency, and I think he must have omitted to do so, bearing in mind the circumstance that the Deputy Collector has not very long since been promoted from the 6th to the 5th Class. From the very favorable terms, however, in which both Mr. Watson and Mr. Birch speak of the exertions made by Baboo Issenchunder Dutt during the period under review, and the success which has attended them, I trust that the Board will concur in my recommendation to his further promotion from the 5th to the 4th Class of Deputy Collectors. Baboo Issenchunder Dutt was placed in the 6th Class of Deputy Collectors at the time the subordinate Executive Officers of Government were ranked. The position was perhaps somewhat a lower one than he was entitled to expect. He has since, however, conducted the duties entrusted to him to the entire satisfaction of his immediate superiors, and as he has been upwards of 16 years in the Government employ, I trust that the good services which he has latterly done may be taken into due consideration in weighing his claims to promotion.

52nd. I beg to bring to the Board's notice the recommendation made by the Superintendent of the 4th Division in favor of Acting Deputy Collector Ahsan Ahmed, it is going on for 2 years since he was first appointed to act as a Deputy Collector in the Survey Department, with the duties of which he is well acquainted. I request the Board will solicit the Government to bring his name on the permanent list of the subordinate Executive Service, and I beg that they will be pleased to submit a similar application in behalf of Joychunder Mujoomdar, who has, for a considerable longer period, been acting in a like capacity.

I have the honor to be, &c.,

(Signed) H. M. REID,
Controller of Surveys.

27A
ANNUAL STATEMENT of Work performed in the Office of the four Superintendents of Survey Divisions, from October 1853 to September 1854. 27A

1	2	3	4	5	6			7			8			9			10			REMARKS.																																																																		
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Names of Divisions	Names of Districts in which operations are in progress.	Names of Officers.	Number of Villages demarcated as shown in Statement No. 2, Column 4.	Number of completed Thakbuts made over to the Surveyor.	On the File during the year.	Disposed of.	Pending.	On the File during the year.	Disposed of.	Pending.	On the File during the year.	Disposed of.	Pending.	On the File during the year.	Disposed of.	Pending.	On the File during the year.	Disposed of.	Pending.																																																																			
<p style="text-align: right;">Appeals of 1852-53, 5 1853-54, 49 A These appeals were distributed as follows:—</p> <table border="1"> <thead> <tr> <th>Names of Officers.</th> <th>Upheld.</th> <th>Reversed.</th> <th>Modified.</th> <th>Restored to the File.</th> <th>Total.</th> </tr> </thead> <tbody> <tr> <td>Khetarmohun Mookerjee, Deputy Collector,</td> <td>19</td> <td>1</td> <td>0</td> <td>0</td> <td>20</td> </tr> <tr> <td>Radhanath Bose, Deputy Collector,</td> <td>22</td> <td>1</td> <td>0</td> <td>0</td> <td>23</td> </tr> <tr> <td>Alec Ahmud, Deputy Collector,</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Total, . . .</td> <td>41</td> <td>2</td> <td>0</td> <td>1</td> <td>44</td> </tr> </tbody> </table> <p>A number of copies of Maps prepared last year has been coloured in the Superintendent's Office. During the present year this work is not shown in the Statement. B The appeals decided within the year were as follows:—</p> <table border="1"> <thead> <tr> <th>Names of Districts.</th> <th>Outstanding at the end of 1852-53.</th> <th>Instituted during 1853-54.</th> <th>Total.</th> </tr> </thead> <tbody> <tr> <td>24-Pergunnahs,</td> <td>0</td> <td>2</td> <td>2</td> </tr> <tr> <td>Nuddeah,</td> <td>9</td> <td>3</td> <td>12</td> </tr> <tr> <td>Bancoorah,</td> <td>0</td> <td>150</td> <td>150</td> </tr> <tr> <td>Total, . . .</td> <td>9</td> <td>155</td> <td>164</td> </tr> </tbody> </table> <p>The decisions in those of 24-Pergunnahs and Nuddeah, &c., those appertaining to the old work were as follows:—</p> <table border="1"> <thead> <tr> <th>Districts.</th> <th>Names of Officers whose decision was appealed against.</th> <th>Number of appeals.</th> <th>Order confirmed.</th> </tr> </thead> <tbody> <tr> <td>24-Pergunnahs,</td> <td>Mr. J. R. Ward, Assistant Superintendent,</td> <td>2</td> <td>2</td> </tr> <tr> <td>Nuddeah,</td> <td>Baboo Doorgapersaud Ghose, Deputy Collector,</td> <td>12</td> <td>12</td> </tr> <tr> <td>Total, . . .</td> <td></td> <td>14</td> <td>14</td> </tr> </tbody> </table> <p>The Bancoorah appeals were from decisions of the Deputy Collectors passed in 1853-54 in the tract of country under demarcation during that year.</p>																					Names of Officers.	Upheld.	Reversed.	Modified.	Restored to the File.	Total.	Khetarmohun Mookerjee, Deputy Collector,	19	1	0	0	20	Radhanath Bose, Deputy Collector,	22	1	0	0	23	Alec Ahmud, Deputy Collector,	0	0	0	1	1	Total, . . .	41	2	0	1	44	Names of Districts.	Outstanding at the end of 1852-53.	Instituted during 1853-54.	Total.	24-Pergunnahs,	0	2	2	Nuddeah,	9	3	12	Bancoorah,	0	150	150	Total, . . .	9	155	164	Districts.	Names of Officers whose decision was appealed against.	Number of appeals.	Order confirmed.	24-Pergunnahs,	Mr. J. R. Ward, Assistant Superintendent,	2	2	Nuddeah,	Baboo Doorgapersaud Ghose, Deputy Collector,	12	12	Total, . . .		14	14
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Total, . . .		14	14																																																																																			
1st OR NORTHERN DIVISION.	Bhaugulpore, ..	Superintendent of Surveys, ..	0	2650	11	11	0	147	143	4	319	0	319	1425	1240	185	54	44	10																																																																			
	Purneah, ..	Assistant Superintendent, ..	0	0	153	148	5	82	61	31	475	403	72	255	185	70	4	4	0																																																																			
	Maldah, ..	Baboo Khetarmohun Mookerjee, Deputy Collector, }	20	0	31	31	0	250	236	14	562	414	148	276	238	88	0	0	0																																																																			
	Rajshahye, ..	Baboo Radhanath Bose, Deputy Collector, .. }	0	0	237	227	10	368	286	82	421	417	4	694	655	29	0	0	0																																																																			
	Pubnah, ..	Baboo Issenchunder Dutt, Deputy Collector, .. }	0	0	5	4	1	61	58	3	210	210	0	158	119	39	0	0	0																																																																			
	Bograh, ..	Moulvee Alec Ahmud, ..	0	0	4	2	2	26	25	1	0	0	0	193	193	0	0	0	0																																																																			
		Total, . . .		20	2650	441	423	18	934	809	125	1987	1444	543	2091	2630	361	58	48	10																																																																		
2nd OR SOUTHERN DIVISION.	Nuddeah, ..	Superintendent of Surveys, ..	0	1336	48	48	0	927	927	0	1098	320	778	154	139	15	278	164	114																																																																			
	Bancoorah, ..	Baboo Doorgapersaud Ghose, Deputy Collector, }	D 1279	0	359	358	1	347	346	1	1459	1322	147	431	430	1	0	0	0																																																																			
		Baboo Tarachand Ghose, Deputy Collector, .. }	E 1540	0	529	528	3	230	229	1	1754	1473	281	586	585	1	0	0	0																																																																			
	Total, ..		2828	1336	936	932	4	1504	1502	2	4311	3115	1206	1171	1154	17	278	164	114																																																																			

C The appeals pending at the close of the Quarter appertain to Bancoorah, and have since been disposed of.
D These Villages are contained in 1066 Hulkas or Maps.
E These Villages are contained in 1156 Ditto.
F The Boundary disputes which were on the File during the year, wholly appertain to the newly-demarcated country in Bancoorah, six cases only excepted.

ANNUAL STATEMENT of Work performed in the Office, &c.—(Continued.)

2612

1	2	3	4	5	6		7		8		9		10		REMARKS.																																																
Names of Divisions.	Names of Districts in which operations are in progress.	Names of Officers.	Number of Villages demarcated as shown in Statement No. 2, Column 4.	Number of completed Thakbuts made over to the Surveyor.	Boundary Disputes.		Izad and Adumnishan Cases.		Duplicates of Maps.		Miscellaneous Cases not embraced in the foregoing Columns.		Appeals from the decisions of the Deputy Collector.																																																		
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3RD OR EASTERN DIVISION.	Mymensing, ..	Superintendent of Surveys, ..	1180	880	550	A 86	464	12	0	12	0	1830	0	634	314	320	226	B 102	124																																												
		Mr. E. DeRozario, Dy. Col., ..	0	0	106	C 106	0	0	0	0	0	0	176	93	83	0	0	0	0	0																																											
		Moulvee Salamutoollah, ..	0	0	121	D 06	25	0	0	0	0	0	141	70	71	0	0	0	0	0																																											
		Joychunder Mojomdar, } Deputy Collector, .. }	1516	0	817	E 220	597	19	19	0	0	1632	0	634	540	94	0	0	0	0																																											
		Total, ..	2705	880	1594	F 508	1086	31	18	12	0	3462	0	1685	1017	568	226	102	124																																												
<p>A Sixty-three on their merits, 17 by razeenama, 5 by arbitration, and 1 struck off. B Of these 93 were appeals from the decisions of Deputy Collectors in boundary dispute cases. In 77 the orders were upheld, 2 were reversed, 2 were modified, 12 were restored to the file. The appeals outstanding of 1852-53 were thus disposed of:—</p> <table border="1"> <thead> <tr> <th>Name of Deputy Collector.</th> <th>Decision confirmed.</th> <th>Decision reversed.</th> <th>Decision modified.</th> <th>Returned for revision.</th> <th>Total.</th> </tr> </thead> <tbody> <tr> <td>Mr. E. DeRozario, Deputy Collector, ..</td> <td>2</td> <td>1</td> <td>0</td> <td>4</td> <td>7</td> </tr> </tbody> </table> <p>The appeals instituted during 1853-54 were thus disposed of.</p> <table border="1"> <thead> <tr> <th>Names of Deputy Collectors.</th> <th>Decision confirmed.</th> <th>Decision reversed.</th> <th>Decision modified.</th> <th>Returned for revision.</th> <th>Total.</th> </tr> </thead> <tbody> <tr> <td>Mr. E. DeRozario, Deputy Collector, ..</td> <td>26</td> <td>0</td> <td>2</td> <td>2</td> <td>30</td> </tr> <tr> <td>Salamutoollah, Ditto, ..</td> <td>10</td> <td>0</td> <td>0</td> <td>3</td> <td>13</td> </tr> <tr> <td>Joychunder Mojomdar, Ditto, ..</td> <td>59</td> <td>1</td> <td>0</td> <td>2</td> <td>62</td> </tr> <tr> <td>Frankissen Roy, ..</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>Total, ..</td> <td>75</td> <td>1</td> <td>2</td> <td>8</td> <td>86</td> </tr> </tbody> </table> <p>Nine were appeals in miscellaneous cases of which 5 upheld, 1 modified, and 3 reversed. C Ninety-eight on their merits, 6 by razeenama and 2 struck off. D Eighty-two on their merits, 3 by razeenama and 9 struck off. E Twenty-nine on their merits, 41 by razeenama and 50 struck off. F Of these 241 are boundary disputes of this season's demarcations.</p>																Name of Deputy Collector.	Decision confirmed.	Decision reversed.	Decision modified.	Returned for revision.	Total.	Mr. E. DeRozario, Deputy Collector, ..	2	1	0	4	7	Names of Deputy Collectors.	Decision confirmed.	Decision reversed.	Decision modified.	Returned for revision.	Total.	Mr. E. DeRozario, Deputy Collector, ..	26	0	2	2	30	Salamutoollah, Ditto, ..	10	0	0	3	13	Joychunder Mojomdar, Ditto, ..	59	1	0	2	62	Frankissen Roy, ..	0	0	0	1	1	Total, ..	75	1	2	8	86
Name of Deputy Collector.	Decision confirmed.	Decision reversed.	Decision modified.	Returned for revision.	Total.																																																										
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Frankissen Roy, ..	0	0	0	1	1																																																										
Total, ..	75	1	2	8	86																																																										
4TH OR WESTERN DIVISION.	Moorshedabad, .. Beerbhoom, .. Bhaugulpore, ..	Mr. Money, Superintendent, } from 1st October to 20th } February 1854, .. }	0	1360	2	2	0	1	1	0	261	261	0	504	504	0	10	G 10	0																																												
		Mr. Watson, Superintendent, } from 21st February to } 30th September 1854, .. }	0	473	5	3	2	126	89	37	43	41	2	833	495	338	20	G 17	3																																												
		Mr. Watson, Assistant Superintendent, } from 1st October to 21st Feb. 1854, .. }	0	0	0	0	0	240	1239	1	0	0	0	456	456	0	0	0	0	0																																											
		Baboo Tarucknath Ghose, } Deputy Collector, .. }	455	5	31	31	0	74	69	5	1522	1514	8	1399	1122	277	0	0	0	0																																											
		Baboo Issenchunder Dutt, ..	0	0	8	8	0	362	362	0	0	0	0	342	342	0	0	0	0	0																																											
Total, ..	826	0	97	95	2	272	258	16	1940	1936	4	1142	924	218	0	0	0	0	0																																												
<p>G On comparing the number of mouzabs entered in Column 4 of the last Quarterly Statement No. 1, with Column 4 of this Statement, a discrepancy of 21 villages will be observed. This was an oversight in the Quarterly Statement. The villages demarcated during the year were 1281.</p> <p>Of the 27 appeals from the decisions of the Deputy Collectors, 11 were outstanding at the close of the year 1852-53, and 16 were brought on the file during the current year. The following Statements show the result of the decision of 1852-53:—</p> <table border="1"> <thead> <tr> <th>Names of Officers.</th> <th>Upheld.</th> <th>Reversed.</th> <th>Modified.</th> <th>Restored to the File for re-investigation.</th> <th>Total.</th> </tr> </thead> <tbody> <tr> <td>Tarucknath Ghose, Deputy Collector, ..</td> <td>3</td> <td>0</td> <td>0</td> <td>2</td> <td>5</td> </tr> <tr> <td>Ashan Ahmud, Actg. Collector, ..</td> <td>2</td> <td>2</td> <td>0</td> <td>2</td> <td>6</td> </tr> <tr> <td>Total, ..</td> <td>5</td> <td>2</td> <td>0</td> <td>4</td> <td>11</td> </tr> </tbody> </table> <p>Of the Year 1853-54.</p> <table border="1"> <thead> <tr> <th>Names of Officers.</th> <th>Upheld.</th> <th>Reversed.</th> <th>Modified.</th> <th>Restored to the File for re-investigation.</th> <th>Total.</th> </tr> </thead> <tbody> <tr> <td>Tarucknath Ghose, Deputy Collector, ..</td> <td>3</td> <td>2</td> <td>0</td> <td>1</td> <td>6</td> </tr> <tr> <td>Ashan Ahmud, Actg. Deputy Collector, ..</td> <td>7</td> <td>2</td> <td>1</td> <td>0</td> <td>10</td> </tr> <tr> <td>Total, ..</td> <td>10</td> <td>4</td> <td>1</td> <td>1</td> <td>16</td> </tr> </tbody> </table> <p>Of the Year 1853-54.</p> <p>Of these 5 were appealed to the Commissioner of Revenue, all were upheld. Besides the above, there were 3 appeals from the orders of J. Watson, Enquire, Assistant Superintendent at Bhaugulpore, to the Commissioner of Revenue; all were upheld.</p>																Names of Officers.	Upheld.	Reversed.	Modified.	Restored to the File for re-investigation.	Total.	Tarucknath Ghose, Deputy Collector, ..	3	0	0	2	5	Ashan Ahmud, Actg. Collector, ..	2	2	0	2	6	Total, ..	5	2	0	4	11	Names of Officers.	Upheld.	Reversed.	Modified.	Restored to the File for re-investigation.	Total.	Tarucknath Ghose, Deputy Collector, ..	3	2	0	1	6	Ashan Ahmud, Actg. Deputy Collector, ..	7	2	1	0	10	Total, ..	10	4	1	1	16
Names of Officers.	Upheld.	Reversed.	Modified.	Restored to the File for re-investigation.	Total.																																																										
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Total, ..	10	4	1	1	16																																																										

(Signed) H. M. REID,

Controller of Surveys.

Burdwan, the 14th December 1854.

ANNUAL STATEMENT showing the condition of the Registers in the four Superintendents' of Surveys Divisions, from October 1853 to September 1854.

1	2	3	4		5								6								7	REMARKS.								
					MEHALWAREE.				ENGLISH.				ENGLISH.				BENGALEE.													
					Survey completed.	Survey not completed.	Register forwarded to the Collector.	Pergunnahs completed but not yet forwarded.	Total completed.	Half finished.	Less than half plete.	Remaining incom- plete.	Pergunnahs completed and forwarded to the Collector.	Pergunnahs completed but not yet forwarded.	Total completed.	Half finished.	Less than half plete.	Remaining incom- plete.	Number of Villages entered in the Registers of preceding Columns.	Registers completed but not yet for- warded.			Total completed.	Half finished.	Less than half plete.	Remaining incom- plete.	Number of Villages to be entered in Registers entered in preceding Columns.	Registers completed and forwarded to the Collector.	Number of Villages entered in Regis- ters of the preceding Columns.	Registers completed but not for- warded.	Total completed.	Half finished.	Less than half plete.	Remaining incom- plete.
1st DIVISION.	Maldah, ..	38	38	0	31	3	34	0	4	31	6	37	0	1	31	1984	3	673	34	0	4	1259	31	1984	6	1843	37	0	1	
	Bhaugulpore, ..	4	4	0	3	0	3	0	1	3	1	4	0	0	3	732	0	0	3	0	1	234	3	732	1	234	4	0	0	
	Purneah, ..	35	35	0	17	2	19	0	16	17	2	19	0	16	17	1661	2	494	19	0	16	3978	17	1661	2	494	19	8	8	
	Rajshahye, ..	52	42	10	0	14	14	0	38	0	23	23	2	27	0	0	14	1337	14	0	38	0	0	0	23	2946	23	2	27	
	Pubnah, ..	46	0	0	0	0	0	0	46	0	0	0	0	46	0	0	0	0	0	0	46	0	0	0	0	0	0	0	0	46
	Bograh, ..	45	2	43	0	0	0	0	45	0	0	0	0	45	0	0	0	0	0	0	45	0	0	0	0	0	0	0	0	45
	Dinagepore, ..	0	1	4	0	0	0	0	4	0	0	0	0	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0	4
Total, ..	200	122	57	51	19	70	0	154	51	32	83	2	139	51	4377	19	2504	70	0	154	6788	51	4377	32	5517	83	10	131		
2nd DIVISION.	24-Pergunnahs, ..	49	49	0	49	0	49	0	0	49	0	49	0	0	49	6156	0	0	49	0	0	0	49	6156	0	0	49	0	0	
	Nuddeah, ..	27	21	6	0	14	14	0	7	0	14	14	0	7	0	0	14	1690	14	0	7	1284	0	0	14	1690	14	0	7	
	Total, ..	76	70	6	49	14	63	0	7	49	14	63	0	7	49	6156	14	1690	63	0	7	1284	49	6156	14	1690	63	0	7	
3rd DIVISION.	Mymensing, ..	0	6	0	0	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
4th DIVISION.	Moorshedabad, ..	72	0	72	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Beerbhoom, ..	40	40	0	36	2	38	2	0	36	2	38	2	0	36	5398	2	411	38	2	0	655	36	5398	2	411	38	2	0	
	Bhaugulpore, ...	33	33	0	31	1	32	0	1	31	1	32	1	0	31	4288	1	1489	32	0	1	2552	31	4288	1	1489	32	1	0	
	Monghyt, ...	26	26	0	26	0	26	0	0	26	0	26	0	0	26	3757	0	0	26	0	0	0	26	3757	0	0	26	0	0	
	Total, ..	171	99	72	93	3	96	2	1	93	3	96	3	0	93	13443	3	4900	96	2	1	3207	93	13443	3	1900	96	3	0	

The Bengalee Registers which have been completed within the year are as follows :-

Names of Officers'	Registers.	Villages.
By the Superintendent of Surveys, ..	13	2800
By the Assistant Superintendent, ..	9	728
By Alee Ahmud, Deputy Collector, ..	14	2441
Total, ..	36	5969
English Registers prepared during the year in the Superintendent's Office, ..	19	2679
Ditto in Assistant Superintendent's Office, ..	2	494
Total, ..	21	3173

Names of Officers.	Zillahs.	No. of Pergunnahs.	No. of Mehals.
By the Superintendent of Surveys, ..	Nuddeah,	13	1021
By Doorgapersaud Ghose, Deputy Collector, ..	Ditto	1	69
		14	1690
By the Superintendent of Surveys, ..	24-Pergahs.	5	1223
By Tarachand Ghose, Deputy Collector, ..	Ditto	2	726
Total, ..		7	1919

2781 villages entered in this year, 3372 to be entered, of which 2505 are villages demarcated this season.

The Registers completed during the year and sent to Collector.

Districts.	Names of Officers by whom completed and sent.	No. of Registers.	No. of villages.	Completed Registers not sent to the Collector.
Monghyr,...	J. Watson, Esq., ..	3	685	0
Bhaugul- pore, ...	Ditto ..	5	1601	1
Burdwan, ...	Ditto ..	3	1808	2
	Baboo Issenchun- der Dutt, D. C., ..	19	2953	0
Total, ..		29	7137	3

(Signed) H. M. REID,
Controller of Surveys.

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ANNUAL STATEMENT of Sums actually drawn by the four Superintendents of Surveys, from October 1853 to September 1854.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	REMARKS.
Names of Months.	Superintendent's salary.	Covenanted Assistant's salary.	Uncovenanted Deputy Collector's salary, including Office Establishment.	Superintendent's Deputation Allowance.	Assistant Superintendent's Allowance.	Deputy Collector's Allowance.	Superintendent's Office Establishment.	Assistant Superintendent's Establishment.	Extra Establishment under Deputy Collectors.	Ditto under the Superintendent of Surveys.	Ditto under the Assistant Superintendent.	Office Rent.	Field Establishment under Deputy Collectors.	Contingent Charges and Tent.	Peons and Mujcoore Peedas.	Total.	
October 1853,	5000 0 0	1300 0 0	4600 0 0	0 0 0	200 0 0	0 0 0	1322 11 4	243 14 3	390 0 0	480 0 0	50 0 0	250 0 0	3407 13 9	629 4 3	69 2 0	17942 13 7	<p>PARTICULARS OF CONTINGENT EXPENSES IN COLUMN</p> <p>1st or Northern Division.</p> <p>Superintendent's Office Contingent, .. 451 5 9</p> <p>Ditto Stationery, .. 178 5 0</p> <p>Assistant's Office Contingent, .. 241 3 10</p> <p>Ditto Stationery, .. 82 10 11</p> <p>Deputy Collector's Contingent, .. 505 13 02</p> <p>Superintendent's Travelling Allowance, .. 780 0 0</p> <p>Ditto Office Establishment, .. 57 0 7</p> <p>Assistant's Travelling Allowance, .. 1010 0 0</p> <p>Ditto Office Establishment, .. 189 11 5</p> <p>Deputy Collector's Ditto, .. 1989 9 0</p> <p>Ditto Office Establishment, .. 549 0 12</p> <p>Total Rupees, .. 5074 5</p> <p>2nd or Southern Division.</p> <p>Superintendent's Contingent, .. 899 7 0</p> <p>Ditto purchase of Tent, .. 350 0 0</p> <p>Stationery Charges, .. 88 0 0</p> <p>Government Elephants' expenses, .. 707 2 10</p> <p>Two Deputy Collectors' Contingent, .. 90 3 0</p> <p>Superintendent's Travelling Allowance, .. 415 0 0</p> <p>Ditto Office Establishment, .. 275 4 82</p> <p>Two Deputy Collectors' Ditto, .. 464 0 0</p> <p>Ditto Office Establishments, .. 419 8 0</p> <p>Total Rupees, .. 2573 12</p> <p>3rd or Eastern Division.</p> <p>Superintendent's Office Contingent, .. 559 12 2</p> <p>Deputy Collector's Ditto, .. 470 7 10</p> <p>Superintendent's Travelling Allowance, .. 925 0 0</p> <p>Ditto Office Establishment, .. 603 14 1</p> <p>Deputy Collector's Ditto, .. 1770 0 0</p> <p>Ditto Office Establishment, .. 277 2 2</p> <p>Total Rupees, .. 3476 0</p> <p>4th or Western Division.</p> <p>Superintendent's Contingent, .. 1123 3 5</p> <p>Assistant Superintendent's Ditto, .. 185 9 10</p> <p>Deputy Collector's Ditto, .. 151 5 8</p> <p>Superintendent's Travelling Allowance, .. 425 0 0</p> <p>Ditto Office Establishment, .. 498 6 6</p> <p>Deputy Collector's Ditto, .. 1434 0 0</p> <p>Ditto Office Establishment, .. 409 2 1</p> <p>Total Rupees, .. 2766 8</p> <p>Grand Total, Company's Rupees, ..</p>
November	5000 0 0	1500 0 0	4600 0 0	0 0 0	100 0 0	0 0 0	1324 0 0	229 4 2	390 0 0	480 0 0	50 0 0	233 14 41	4248 2 7	1830 12 61	91 8 7	20077 10 21	
December	5000 0 0	1500 0 0	4987 1 7	0 0 0	100 0 0	0 0 0	1324 0 0	200 0 0	390 0 0	800 0 0	50 0 0	224 0 0	5331 6 11	2605 1 6	202 4 9	22713 14 9	
January 1854,	5000 0 0	1500 0 0	5100 0 0	0 0 0	100 0 0	0 0 0	1324 0 0	200 0 0	390 0 0	800 0 0	50 0 0	224 0 0	5428 5 4	2415 4 21	226 15 0	22758 8 61	
February	4817 13 7	1239 4 6	5003 9 2	0 0 0	100 0 0	0 0 0	1324 0 0	200 0 0	390 0 0	800 0 0	50 0 0	222 6 3	5463 6 8	2368 7 7	200 0 0	22184 7 9	
March	4312 14 5	580 10 31	5243 8 81	0 0 0	16 2 01	0 0 0	1324 0 0	200 0 0	396 15 11	800 0 0	0 0 0	219 10 4	5084 11 3	2532 1 1	218 6 0	20002 8 1	
April	4200 0 0	500 0 0	5300 0 0	0 0 0	0 0 0	0 0 0	1324 0 0	200 0 0	350 0 0	800 0 0	0 0 0	200 0 0	5088 0 0	2376 9 91	204 0 2	20542 9 111	
May	4200 0 0	603 3 8	5267 11 10	0 0 0	0 0 0	0 0 0	1323 0 6	200 0 0	350 0 0	800 0 0	0 0 0	200 0 0	4074 0 0	1936 13 111	247 13 9	19202 11 81	
June	4200 0 0	700 0 0	5250 0 0	0 0 0	0 0 0	0 0 0	1317 5 1	300 0 0	350 0 0	480 0 0	0 0 0	209 9 7	3016 0 1	1681 7 111	197 4 0	17601 10 81	
July	4200 0 0	700 0 0	5250 0 0	0 0 0	0 0 0	0 0 0	1323 10 10	100 0 0	350 0 0	480 0 0	0 0 0	246 8 3	3008 0 5	791 2 01	200 6 0	16649 11 61	
August	4500 0 0	700 0 0	5250 0 0	0 0 0	0 0 0	0 0 0	1324 0 0	100 0 0	350 0 0	480 0 0	0 0 0	250 0 0	3017 4 8	476 11 71	176 12 0	16624 12 31	
September	4500 0 0	700 0 0	5250 0 0	0 0 0	0 0 0	0 0 0	1324 0 0	100 0 0	500 0 0	480 0 0	0 0 0	247 1 0	2971 14 10	419 15 11	138 2 0	16631 1 9	
Total drawn for each Class, ..	54930 12 0	11523 2 51	61101 15 31	0 0 0	616 2 01	0 0 0	15878 11 9	2173 2 5	4569 15 11	7680 0 0	250 0 0	2727 1 91	50144 2 6	20064 4 5	2173 2 3	233832 8 101	
Total passed for each Class, ..	54930 12 0	11523 2 51	61101 15 31	0 0 0	616 2 01	0 0 0	15888 0 0	2173 2 5	4569 15 11	7680 0 0	250 0 0	2727 1 91	50732 3 1	20064 4 5	2173 2 3	234429 13 81	
Total Savings to Government,	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	9 4 3	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0	588 0 7	0 0 0	0 0 0	597 4 10	

Of the above Statement the following Table exhibits the Expense under each Class and the Savings to Government.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Names of Divisions.	Superintendent's salary.	Covenanted Assistant Superintendent's salary.	Uncovenanted Deputy Collector's salary including Office Establishment.	Superintendent's Assistant Superintendent's Deputation Allowance.	Superintendent's Office Establishment.	Assistant Superintendent's Office ditto.	Extra Establishment under Deputy Collectors.	Ditto under the Superintendents.	Ditto under the Assistant Superintendent.	Office Rent.	Field Establishment.	Contingent Charges and Tent.	Peons and Mujcoore Peedas.	Total Expenses.	Total Savings.
1st Division,	10317 13 7	9233 13 111	21064 13 11	616 2 01	4236 0 0	1200 0 0	1516 2 0	7680 0 0	0 0 0	840 8 111	12168 0 0	6531 11 81	850 14 0	76306 0 21	0 0 0
2nd Ditto,	18000 0 0	0 0 0	12683 13 101	0 0 0	4226 11 9	73 2 5	1200 0 0	0 0 0	0 0 0	600 0 0	11629 5 10	4799 9 41	163 3 3	53380 14 6	547 14 5
3rd Ditto,	12000 0 0	0 0 0	14487 1 7	0 0 0	3180 0 0	0 0 0	150 0 0	0 0 0	0 0 0	600 0 0	12180 0 0	4506 4 3	504 0 0	47607 5 10	0 0 0
4th Ditto,	14612 14 5	2239 4 6	12866 1 11	0 0 0	4236 0 0	900 0 0	1708 13 11	0 0 0	250 0 0	686 8 10	14166 12 8	4226 11 1	650 1 0	56538 4 4	49 6 5
Total,	54930 12 0	11523 2 51	61101 15 31	616 2 01	15878 11 9	2173 2 5	4569 15 11	7680 0 0	250 0 0	2727 1 91	50144 2 6	20064 4 5	2173 2 3	233832 8 101	597 4 10

(Signed) H. M. REID,
Controller of Surveys.

Burdwan, the 14th December 1854.

No. 28.

FROM

THE DEPUTY SURVEYOR GENERAL,

To

A. GROTE, ESQUIRE,

Secretary to the Board of Revenue,

FORT WILLIAM.

Dated Calcutta, 1st March 1855.

SIR,

THE Reports and Returns connected with the Survey Proceedings in the Lower Provinces, carried on during season 1853-54, having been received from the several Revenue Surveyors, duly examined and checked in this Office, I have the honor of submitting for the information of the Board of Revenue, as well as of His Honor the Lieutenant Governor of Bengal, a brief Report of the results of the season's operations, the details of which will be found in the annexed Tabular Statements* as per margin, containing the Statistics of the professional branch of the Survey.

* A, B, E, F,
Original Statements,
No. 2.

2nd. The four regular Revenue Survey parties were at work under the same Officers as mentioned in my last Report, for Assam, the place of Mr. Kelso, transferred to the Pension Establishment, has been taken by Mr. Assistant Surveyor J. H. O'Donel, and Arracan has been added to the list. The following therefore will be the disposition of the parties for the season under review :—

1st or Northern Division,	Mr. J. J. Pemberton,	Pubna.
2nd or Southern	do., Major R. Smyth,	Nuddea.
3rd or Eastern	do., Mr. A. Wyatt,	Mymensing.
4th or Western	do., Captain J. E. Gastrell,	Moorshedabad.
5th or Assam	do., Mr. J. H. O'Donel,	Goalparah.
6th or Arracan	do., Mr. H. Porteous,	Akyab.

3rd. Of the above districts, the portion of the Joint-Magistracy of Pubna, situated to the North of the Ganges, with the exception of one small pergunnah, has been finished. The district of Nuddea is still in hand. Of Mymensing one-half may be considered as completed. Moorshedabad is approaching completion. The district of Gowalparah is entirely completed and Akyab merely commenced upon. In the 3rd paragraph of my last Report, the district of Rajshahye was stated to have been completed as far as the exterior limits were concerned. The extent therefore amounting to 58½ square miles, effected by the 1st Division Establishment as specified in the Return A. is merely the area of outstanding villages and chucks. The extent of country surveyed, and remaining in Bengal at the close of the season under review, was as 88,403 square miles, to 29,265 square miles.

4th. It will be perceived from the tabular Statement marked A., that a Total Area of 5,490.35 square miles, in the several districts before-named, has been accomplished. This gives an average for the four regular and equal Establishments (excluding Assam and Akyab) of 1061.42 square miles each; the out-turn showing a gradual return to the old rate of progress as marginally cited. The above area appertains to 21 entire pergunnahs, and portions of 109 others, containing 5,547 mouzahs within 5,004 separate Hulkas or Circuits, as defined by the demarcation establishments. The average number of Hulkas surveyed by each of the four regular parties amounts to 1,226, and the average size of these village circuits is 562 acres, or more than three-fourths of a square mile, which is also favorable when contrasted with the previous seasons.

	Sqr. miles.
47-48 =	7,097
48-49 =	6,243
49-50 =	4,874
50-51 =	3,565
51-52 =	3,826½
52-53 =	4,246.04
53-54 =	5,207.60

5th. The general results are exhibited in the following Statement, with which the Totals for the previous season are also placed in comparison.

Names of Survey Divisions.	Names of Superintending Officers.	Pergunnals.		Number of Hulkas or Traverse Circuits.	Average size of Traverse Circuits.	Total area Surveyed in Square Miles.	Total Cost.		Average rate per Square Mile.		Average rate per Traverse Circuit.				
		Completed.	Portion of				Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.	
1st or Northern Division, ...	Mr. J. J. Pemberton, ...	3	47	1681	347	1000.72	26632	12	10	26	7	6	15	12	2
2nd or Southern Do., ...	Major R. Smyth, ...	9	0	965	785	1219.67	30097	2	9	23	12	3	30	3	10
3rd or Eastern Do., ...	Mr. A. Wyatt, ...	2	4	908	586	864.07	30410	6	0	34	7	4	31	7	3
4th or Western Do., ...	Captain J. E. Gastrell, ...	0	58	1349	531	1161.22	29794	2	2	25	6	11	20	13	2
5th or Assam, Goalparah Do. ...	Mr. J. H. O'Donel, ...	7	0	62	0	1021.92	14652	6	8	14	5	5	0	0	0
6th or Arracan Do. ...	Mr. H. A. Forteous, ...	0	0	39	0	222.75	11307	1	4	50	11	8	0	0	0
	Total, ...	21	109	5004	562	5490.35	143093	15	9	26	1	0	24	9	1
	Total for Season 52-53, ...	37	38	5187	427	4246.04	131798	12	6	31	0	8	23	8	0
	Difference, ...	—	16 × 71	—	183 ×	1244.31 ×	11295	3	3	—	4	15	8	1	1

6th. This Statement shows that the area is in excess by 1244-31 square-miles, which has reduced the average cost per square-mile from 31-0-8 of the previous season to 26-1-0, giving a difference of a fraction under 5 Rupees which is very considerable. The rate would be further reduced to Rupees 21-14-3 if the cost of the Akyab Survey was excluded, the cost of this survey being extraordinarily high. The rate per village circuit is in excess of the previous season by Rupees 1-1-1 owing to the unusually large size of these circuits. The total outlay incurred, amounts to Company's Rupees 1,43,093-15-9, of which the sum of Rupees 2,336-9-7 has been debited to the Civil branch for the Mchhalwarce calculations effected in the several Surveyors' Offices, the balance therefore of Rupees 1,40,757-6-2 has been carried to the account of the professional Survey, and upon this the mean averages have been deducted. The details

	Rs.	As.	P.
Grants for the five Surveys,	1,99,213	0	0
Grant for the Arracan Survey,	18,612	0	0
	<hr/>		
	1,57,825	0	0
Expended,	1,43,093	15	0
	<hr/>		
Savings,	14,731	0	3

of the above are specified in table E. The total sum deducted from the fixed annual Grants, leaves a balance of Rupees 14,731-0-3 as savings to Government as cited in the margin.

7th. Of the above savings Rupees 7,422-15-1 are from the Grants of the five Bengal, and Assam Surveys, and the balance Rupees 7,304-14-8 is from the Grant of the Akyab Survey, which it has not yet been possible to equip properly. With reference to my letter No. 13, dated the 24th January 1854, to the address of the Government of Bengal, the expense of Captain Sherwill's pay proper* from the 6th January to the end of September 1854, whilst that Officer is under deputation on special duty re-adjusting the Civil and Criminal jurisdictions in Behar, amounting to Rupees 4,649-2-7 has been adjusted from these savings, the balance therefore of Rupees 10,078-11-2 remains to the credit of this Department.

8th. The work thus performed at the cost specified, is, I have the satisfaction of stating, such as will bear the test of time and examination. The results of our professional Surveys improve, if possible, annually; and no pains are spared by the Officers employed to bring their work up to the standard of the day. In point of quantity and cost, I trust the results above stated, will be deemed as satisfactory and encouraging as can be expected from the existing strength of the Establishments; as regards quality, they are undeniable as the Maps will at once prove.

9th. On a reference to the original Returns furnished by the Surveyors, marked No. 2 in Appendix, it will be seen, that the nature and extent of Maps and Records prepared and lodged. Records prepared, amount in the aggregate as follows:—

- 31 Folio Volumes, containing 5,779 separate village Plans and Registers, all in duplicate.
- 19 Pergunnah Topographical Plans; scale, 1 mile to the inch, in duplicate.
- 4 Civil Station or City Maps; scale, 8 inches to the mile, in duplicate.
- 5 Index or Skeleton Maps, explanatory of the season's operations, on a reduced scale.
- 33 Main Circuit Traverse Computations, being the numerical data on which the general Survey is based.

10th. Of these Records, the pergunnah Maps, with a few exceptions, as well as City Maps and Computations, have been duly lodged in this Office, and the duplicates made over to the Civil Superintendents of Surveys, for the Authorities of districts for whom they are intended,

and receipts for the same rendered. The village Plan Volumes however are necessarily detained in many instances, pending the completion of the Survey of pergunnahs, having outlying and widely-scattered villages and mehals. The Maps already lodged, have been prepared with great care: they are most useful records, full of information, with the details minutely and correctly entered; and they will, when put to a practical use, I have no doubt, prove valuable.

11th. During the past year, the existing state of the Survey Operations and Establishments in Bengal, have been much discussed in consultation with his

Discussion on system of Survey.

Dated the 9th October 1854.

Honor the Lieutenant Governor: and in obedience to instructions personally received, a Memorandum as per margin, was prepared and submitted by me for his Honor's information, a copy of which is annexed to this Report. The object which the Government had in view, was extended progress and diminished cost, both these points were declared

to be of the first importance, it became therefore my duty to suggest a remedy for the attainment of these two desirable ends. The Memorandum points out what I believe to be the only way of meeting the difficulty, viz., to increase the subordinate Establishments of both the Civil and Professional Branches of the Survey, and to concentrate and reduce the present very expensive double superintendence, putting each Division under one professional Officer, with the Collector of the district, to take the appeal cases, and provide for the intricate details of the Civil business, when the Native Deputy Collectors are not competent or empowered to do so.

12th. The first of these two grand desiderata, viz., increased progress, has been already acknowledged and provided for. The proposal to raise the four Bengal

Increased Grants for Professional Branch.

* Government to Board No. 390, dated 29th December.

Surveys from the single to the full or double strength, equivalent to the parties employed in the North-West Provinces, met the concurrence of the Board and the Government,* and the strength of each party is now being raised as speedily as circumstances will permit to the maximum strength of Rupees 37,524 per annum, the difference required being Rupees 27,960 as shown in the margin. When the professional Establishments have thus been strengthened, and the new hands become efficient, and the demarcations are carried out sufficiently in advance, the effect of the additional number of surveying

	Rupees.
† Present scale for four Surveys,...	1,22,136
Proposed scale,	<u>1,50,096</u>
Increase,	27,960

parties thrown under the same superintendence will be to diminish the mileage rate by a very considerable proportion.

13th. To meet this increase on the professional side, corresponding additions have likewise been ordered for the Civil Establishments, and it is hoped

Civil Branch requires corresponding augmentation.

that the grand desideratum of an amply prepared field for survey may be ensured at all cost, the detention of large Survey Establishments being more expensive than can well be calculated. The intermixed

state of the tenures in Eastern Bengal, however, affords such increased work for the Demarcation Establishments, that on the existing system of perfecting all the interior estates before the Village Professional Survey is commenced, a very large addition must be made to the number of Amcens employed, otherwise constant impediment must be felt by the Professional parties. The expense of a few additional Amcens to each Civil party is not to be thought of in comparison with the cost of an unemployed Survey party, and I have shown, satisfactorily I believe, that the Revenue Surveyors are perfectly competent and willing, in addition to their present duties, to superintend the demarcation of the country a-head of the Survey, as

well as all duties connected with measurements, of whatever nature or kind, at a very large saving to Government, if permitted to do so.

14th. The changes thus briefly alluded to are highly important as affecting the economy of this department, and are therefore noticed in this place, not with a view to discussion, but simply as a record for future reference. The Annual Reports it is desirable to keep as free as possible from questions demanding definite orders. I therefore pass on to notice the separate Executive Divisions.

15th. Mr. J. J. Pemberton and his party, of the strength specified in the margin resumed field operations on the 15th November 1853, and which were carried on in that part of the Joint Magistracy of Pubna situated to the North of the Ganges, and lying between the surveyed portions of the Bogra and the Mymensing districts, the whole of which, with the exception of one circuit of Pergunnahs Bajooras, Mohubutpore, &c., has been completed. In accomplishing the survey of these tracts, no local difficulties of any importance were met with, the land-marks were generally found standing, and the Thakbust Maps, with a very few exceptions, were all in the possession of the Surveyor on the work commencing, the exceptions being for the most part villages in dispute, all disputes being however settled and adjusted previous to the party leaving the field.

16th. The extent surveyed amounts to 1000.72 square-miles within no less than 20 Pergunnahs of Pubna and interlaced portions of 30 other Pergunnahs, appertaining to no less than nine different districts, as enumerated in the following Table, comprising 2,688 villages, inclusive of 895 Arazees (divided off by off-sets,) within 1681 Hulkas or traverse circuits, of which 816.35 square-miles and 1,219 Hulkas appertain to 20 Pergunnahs of the district of Pubna.

Names of Districts.	No. of Pergunnahs.	Traverse Circuits.	Uslee Villages, without Traverses.	Arazees.	Total.	Area in Square-miles.
Pubna,	20	1219	67	624	1910	816.35
Bogra,	6	199	21	243	463	64.53
Rungpore,	3	49	1	8	58	9.95
Dinagapore,	2	3	1	2	6	0.16
Mymensing,	3	111	10	6	127	42.03
Rajshahye,	10	89	10	12	111	58.51
Nuddea,	1	1	0	0	1	0.80
Dacca,	3	7	0	0	7	5.22
Furcedpore,	1	3	0	0	3	3.09
Jessore,	1	0	2	0	2	0.08
Total, ...	50	1681	112	805	2688	1000.72

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17th. After deducting four circuits of the Ganges and Juboonah Rivers, viz., 91.34 square-miles, the Mouzawar area will therefore be 725.01 square-miles for this district. The average size of villages of the Pubna, as well as of the other included districts, has been deduced after excluding the area of the four river circuits, which gives 347 acres per village. Of the above Pergunnahs, three only are stated to have been completely finished, viz., Dateca Juhangeerpore, Esupshahee and Berahimpore, of district Pubna. The Pergunnahs comprising the chief circuit surveyed, and which are for the most part finished, are—

Protapbazoo,
Sindooree,
Bazoochup,
Islampoor,

Sonabazoo,
Talook Esuphnuggur,
Talook Sakhnee,
Pergunnah Sooltanpurtab.

The 895 arazees being only portions of Uslee and Dakhilee villages cannot properly be reckoned as separate mouzas, thus after excluding these, the *bonâ fide* villages, as actually having come under survey, are 1,793. The average size of arazees is stated to be from 2½ to 3 acres, and the labor of surveying them professionally, is very considerable.

18th. The total expense incurred amounts to Company's Rupees 26,832-12-10, of which Rupees 340 has been debited to the Mehalwaree calculations effected in this Surveyor's Office, the balance therefore of Rupees 26,492-12-10 has been carried to the account of the Professional Survey, the mean average thus derived is Rupees 26-7-6 per square-mile, and per circuit Rupees 15-12-2. The maximum grant for this

Annual Grant,	26,276	0	0
Deduct expended,	26,932	12	10
Balance, Rupees,	1,443	3	2

Survey is Rupees 28,276, the lowest of all the Bengal Surveys; the expenditure is therefore within the fixed allowance by Rupees 1,443-3-2,* which

sum is carried to the general savings to Government.

19th. The results of the past, and previous season's work, stand as specified in the following Table :—

Comparative Out-turn.

Seasons.	Area surveyed in Square-miles.	No. of Village Circuits.	Average size of Village Circuits in Acres.	Total Cost.			Average rate per Square-mile.			Average rate per Hulka Circuit.		
				Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
1852-53,	869.96	1616	344½	27797	9	5	31	15	3	17	3	2
1853-54,	1000.72	1681	347	26402	12	10	26	7	6	15	12	2
On account of Mehalwaree Calculations, }	0	0	0	340	0	0	0	0	0	0	0	0
Difference,	+130.76	+ 65	+ 2½	- 964	12	7	- 5	7	9	- 1	7	0

This is a very satisfactory out-turn, and larger than either of the two previous seasons. The Table exhibits an increase of area of 130.76 square miles, and reduction in the mileage cost of Rupees 5-7-9. The decrease in the mean average per circuit being Rupees 1-7-0, the average size of the village circuits is as nearly as possible the same, viz. 347 acres.

20th. The definition of internal estates furnished 11,117 parcels or chucks, the cost of the computers employed on the calculation of the same comes to Rupees 340: this amount, as will be seen from the above Table, has been excluded from the mileage and circuit rates of the Professional Survey and is debited to the Civil department.

21st. Under the head of Remarks in this Surveyor's Return of Professional Field and Office work, the several maps and other documents, as enumerated in the margin, appear to have been prepared, of which those marked thus* have been lodged in this Office. From the inspection I have had of these maps, they appear to have been done with care and attention, and to be useful records. The extraordinary intermixtures of Pergunnahs and Districts is a sad drawback, however, to the perspicuity of maps on such a scale, or even on any tangible scale, and calls loudly for the dissection of all these districts into compact civil and criminal subdivisions, which will now be carried out, and which alone can provide intelligible maps for general use.

22nd. With regard to the remaining records, it is stated by Mr. Pemberton that the whole will be furnished in due course, both to this Office, and to that of the Civil Superintendent. As respects the village plan volumes, there is no hurry for their deposit, one or two volumes of different Pergunnahs and of different Assistants' work as specimens are submitted for inspection, and after they have been examined, they are returned for completion. Many of the volumes remain for a satisfactory comparison and reconciliation between the fiscal and foudjdarce names of villages, regarding which great precautions are now adopted with a view to the early readjustment of Thannah Circles.

23rd. The information regarding the minute test of the interior or topographical

Extract.

Para. 9th.—"The interior survey has been minutely attended to: it has been a source of much anxiety both to myself and Assistants. A very large percentage of the work was perturbed by the perambulators by Messrs. Mullins and Beaton. The details surveyed embrace only geographical and Topographical features, together with many large tracts of grass or tree jungle. The Board's system prevails on my survey, and having revised several villages myself, I place much confidence in this part of the work. All roads have been surveyed, not continuously, but as they have occurred in the progress of the survey, the Boundary Surveyor marking all that cross their lines with accuracy, with all other details within a certain distance of the boundary. These are also used as tests of the interior. All remarkable objects, Bridges, Bazars, Bunds, &c., &c., have been represented on the Pergunnah and Village Maps."

survey as quoted in the margin, will be found to be very satisfactory. Work tested, as this has been described, may be relied on.

24th. The comparison between the Professional Survey Maps and the Thakbust Plans has been very satisfactory; only a few discrepancies were discovered in about 24 instances.

Comparison of Demarcation sketch maps. This may be considered rather surprising, as with the exception of 22 villages, the whole was prepared on the old system, being merely eye-sketches, though *bona fide* measurements. Mr. Pemberton observes, that he has often been surprised himself at the accuracy of the old Thakbust Maps, which he attributes to the Ameens having obtained such a degree of proficiency and excellence, merely assisted by the *luttah* or measuring-rope. The cause of so many arazees or *mcliks* being taken up professionally arises from the absence of the now system of demarcation in this district.

25th. The Great Trigonometrical Survey not having extended to Mr. Pemberton's line of operations, the connection of his own survey with the Great Trigonometrical Survey Points is consequently in abeyance, in the absence of which

Identification of Survey Points.

the Surveyor has taken the precaution to erect three pukka platforms, and marked four other permanent stations, and which he has duly recorded on his maps with the numerical results for future connection; the cost of these platforms amounted only to Company's Rupees 54-11-7, which has been defrayed from the annual maximum, and included in the calculation of averages. All the exterior village triple junction stations are also reported to be well marked and made over to the charge of the village "Putwarees" and Chowkeedars. The permanent marks thus laid down will assist materially in any future connection.

26th. Mr. Pemberton states, that the collection of Geographical and Statistical materials of the Pergunnahs of the district of Pubna, has been duly cared for, the Surveyor's attention has been drawn to the early submission of the Report for the district of Rajshahye.

27th. About 900 or 950 square-miles, or 1,150 villages of the Pubna District South of the Ganges, remain to be surveyed, besides many arazees, which, with 296 villages and 404 arazees North of the Ganges, he considers will scarcely be sufficient for his Establishment for the current season. This party has been materially strengthened by the return of Mr. O'Donel from the Assam Survey, which, together with the recruiting now going on, will, I believe, enable Mr. Pemberton to get through much more area if it can be furnished to him. The direction of the 1st Division party, after the completion of Pubna must be Northwards, taking up the half-finished district of Bogra (*vide* Sketch Map in last year's printed Report) and then passing into Rungpore, working from East to West, the completed portion of the Mymensing District forming a good base whereon the operations will best be able to proceed. This will also leave an uninterrupted field in Dinagepore for either of the other parties as may be first available for that district, and which it is desirable should be proceeded with as soon as possible to complete our geographical maps. I trust these conditions may be made known to the Demarcating Establishments.

28th. Mr. Pemberton brings to notice, that he has received every aid from his Assistants in carrying out the season's work, and that they have fully maintained their characters for zeal and assiduity, especially Messrs. J. R. Pringle and R. Smith, whose exertions are stated to have been unwearied, in consideration of which, they are recommended for promotion to the grade of full Assistants in the event of any augmentations taking place in the Department, or any other favorable opportunities occurring. In consequence, however, of both these Assistants having only been too recently raised to their present position, I am unable to support the recommendation at present. Mr. Beatson, Junior, Sub-Assistant, has also been recommended for promotion from Rupees 75 to 100 per mensem, which has been approved, subject to the usual confirmation. The field season closed on the 15th May 1854, when Mr. Pemberton with the Establishment retired for the recess duties to Berhampore, owing to there being no accommodation for them at Pubnah.

29th. Major Smyth, with the Establishment detailed in the margin, resumed field operations in the district of Nuddea on the 20th November 1853, prosecuting the same to the end of May 1854, when the Establishment retired for the recess to Burdwan, no accommodation being found at Kishennuggur and Dum-Dum being too distant. The station of Burdwan was found convenient as the Headquarters of the Civil Establishment, that district being next for survey and consequently demanding the presence of the Controller, it was therefore desirable

2ND OR SOUTHERN DIVISION.

Nuddea.

Revenue Surveyor.—

Major R. Smyth.

Assistant.—

Mr. N. T. Davey.

Sub-Assistants.—

Mr. W. Ivey.

" W. Davey.

" F. Agabeg.

25 *Native Assistants.*

Area performed, 1219'67 square-miles.

Cost per Square mile, Rs. 23.-12-3.

on all accounts to establish the Survey Head-quarters at the same place.

30th. The portion of the district prepared for survey embraces 11 Pergunnahs, as enumerated in the margin, situated in the centre and Northern extremity of the district, extending from the debouchure of the Choornee River into the Hooghly, about 7 miles S. E. of Santipore, as far North as the entrance of the Jellinghee from the Ganges, a distance in latitude of 63 miles. It is bounded on the West by the Hooghly and Jellinghee Rivers, on the North by the Ganges, on the East by the Matabangah, and on the South by the Choornee River, with Pergunnah Sahaoojul lying to the East of the Matabangah.

Tract employed upon.

1. Pergunnah Rajpoor.
2. " Ookraha Chackla, Kishnaghur.
3. " Turruf, Nuddeah.
4. " Oomunpoor.
5. " Mubutpoor.
6. " Sahaoojul.
7. " Bugwan.
8. " Guznoopeepoor.
9. " Plassey.
10. " Hooscalpoor.
11. " Belgong.

extending from the debouchure of the Choornee River into the Hooghly, about 7 miles S. E. of Santipore, as far North as the entrance of the Jellinghee from the Ganges, a distance in latitude of 63 miles. It is bounded on the West by the Hooghly and Jellinghee Rivers, on the North by the Ganges, on the East by the Matabangah, and on the South

by the Choornee River, with Pergunnah Sahaoojul lying to the East of the Matabangah.

31st. The number of village circuits demarcated by the Civil Superintendent amounted to 1,555. Besides these, there were 40 left unsurveyed of season 1852-53, and alluded to in the 23rd para. of my last Report, as being inconveniently situated for survey that season; 1,595 hulkas therefore were marked off, comprising the entire remaining area of District Nuddea, which had been variously estimated at between 1,500 and 1,700 square-miles. The area, however, is now found to be nearer 2,000 square-miles. Out of these, 1,025 thakbuts were made over for survey—these comprised the first seven Pergunnahs, which form the surveyed area for the season, two of which, however, Sahaoojul and Bugwan, could not be completed, except as to the boundary work, the topographical details of 284 villages remaining to be taken up during the current season. This was caused by a serious interruption to the work in the best part of the field season, owing to an entire absence of land-marks in certain Pergunnahs, which was rectified by the Civil Superintendent as soon as practicable, but not until much delay had occurred and the greatest inconvenience felt by the Survey parties.

32nd. The area comprised in the four grand circuits into which this portion of country was divided, amounts to 1,346 square-miles. These circuits were again sub-divided into 39 smaller ones, averaging 35 square-miles each, and the whole of these would have been completed but for the above difficulty. Half the area only therefore of the two Pergunnahs, unfinished, has been included in the Returns. The interior details of these Pergunnahs with the last mentioned four Pergunnahs, comprising about 700 hulkas and about 780 square-miles, constitute the remaining work of this district for the season 1854-55. These Pergunnahs lie between the Jellinghee and Bhaugiruttee Rivers, forming the Southern portion of that Doab. This area, it is expected, will not be sufficient for the current season, and it is therefore very desirable to have work prepared in Burdwan for this party. Since my last Report, the disposition of the 2nd and 4th Survey Establishments have been altered, and the difficulty alluded to in para. 27 rectified by the transfer of Captain Gastrell's party to Bancoorah. This arrangement, which allows of Major Smyth's continuous and regular operations, and the simultaneous survey of both East and West Burdwan, is very advantageous.

33rd. The return of professional and field work, therefore, includes the names of seven Pergunnahs of the district of Nuddea, and an area of 1219.67 square-miles. Of the area surveyed, 42½ square-miles appertain to six river circuits, and the balance 1177.37 square-miles is the actual mouzahwar work, comprising 1,158 villages within 959 traverse proved hulkas. Of these, 883 are *bonâ fide* Uslee villages, the remaining 76 being outlying portions of Uslee villages, which required separate survey. The average size of circuits is 785 acres, which is extremely large for Bengal, and has tended mainly to the production of such an excellent return on this Division. Major Smyth justly observes, that notwithstanding the misfortune above alluded to, his Establishment has succeeded in turning out a very large area; and considering the great distance of its extreme points, it is very creditable to both European and Native Assistants, the more especially as it has been done with a strength of four European Assistants against five that were employed the previous

season. To complete this area, Major Smyth further states, that every man of his Establishment was engaged in the field under a very burning sun until the last day of May, and much sickness during the recess has resulted to the Native Establishment from this exposure. Had it not been for the delays caused by want of boundary marks, the out-turn would have been close on 1,400 square-miles, the non-completion of which has been a great disappointment to the Surveyor, for, with large villages and a clear country, he fully expected, at starting, to finish all the area he had enclosed within his main circuits.

34th. The number and description of Maps, which appear from the original No. 2

Records prepared.

- 817 Village Maps, in duplicate.
- 3 Pergunnah Maps on the scale of 1 inch to the mile, in duplicate.
- 1 Map of the Civil Station and Town of Kishnaghur, on the scale of 12 inches to a mile.
- 1 Book stitched, comprising main circuits of season 1853-54.
- 1 Index Map of season's operations.

Statement to have been prepared, are as specified in the margin. Only two Pergunnah Maps have been submitted, owing to the absence of interior details for the Pergunnahs of Bugwan and Sahaojul. The entire area is divided into three maps, and the third cannot be finished until the ensuing recess. This, together with the plans for the present season, will be rendered, with the least

practicable delay, in order to permit of the District Map being brought out at once. The volumes of village plans are complete and bound up. Those lodged in this Office are highly approved.

35th. The Thannah or Mofussil name, or that by which the village is best known and called by the people and the Police, is recorded throughout on the maps

Discrepancies in village names.

in addition to the fiscal name as heretofore given, founded on the Collector's towje e or rent-roll papers. The Revenue name stands at the head

of the village map, and all *alias* names are specified, the names of the several tolas, parras, bazars, &c. included in the hulka, being also laid down, so that no difficulty can hereafter be experienced in re-adjusting the districts into convenient civil and criminal jurisdictions.

36th. The execution of the above Field and Office work entailed an expenditure of Company's Rupees 30,097-2-9, which is under the annual maximum by Company's Rupees 1,189-13-3

Cost and Rate.

	Rs.	As.	P.
Annual maximum,	31,287	0	0
Deduct expended,	30,097	2	9
Savings,	<u>1,189</u>	<u>13</u>	<u>3</u>

as specified in the margin. Of this expense, Rupees 1,098 has been carried to the account of the Mehalwaree calculations, and the balance therefore, Rupees 28,999-2-9, is alone considered

as a fair charge on account of the Professional Survey, and upon this the calculations of the averages have been struck.

37th. The following Table exhibits the distribution of the above outlay, and a comparison of the results of the past and previous season's proceedings:—

Seasons.	Description of Survey.	Area surveyed in Square-miles.	Number of Hulka or Traverse Circuits.	Average size of Hulka Circuits in acres.	Total Cost.			Average rate per Square-mile.			Average rate per Traverse Circuit.		
					Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
1852-53,	Professional Survey, Nuddeah,	824.43	960	550	28896	13	9	35	0	11	30	1	7
	Portion of Establishment employed for the calculation of Mehalwaree Areas, .....	.....	.....	.....	1024	0	0	0	0	0	0	0	0
1853-54,	Professional Survey, Nuddeah,	1219.67	959	785	28999	2	9	23	12	3	30	3	11
	Portion of Establishment employed for the calculation of Mehalwaree Areas, .....	.....	.....	.....	1098	0	0	0	0	0	0	0	0
	Difference,	+395.24	- 1	+235	+176	5	0	-11	4	8	+0	2	4

This shows, that for the trifling additional outlay of Rupees 176-5-0, we have an increase over the extent performed during the previous year by no less than 395·24 square-miles. The mileage cost of Rupees 23-12-3 is consequently very considerably reduced, viz., by Rupees 11-4-8 from the previous season, whilst the circuit cost is almost the same, being only 2 annas and 4 pie in excess. The mileage rate is thus brought down to what the Bengal Surveys used formerly to yield, whilst the value and style of the Nuddeah work is proved to be of the highest order. These results are a sufficient proof of the continued and undeviating zeal and ability brought to bear on his operations by Major Smyth, and will I trust secure for that Officer the approbation he so highly deserves.

38th. The connection of the Nuddeah operations with those of the Calcutta Meridional Series of the Great Trigonometrical Survey have been well carried out, and deserve every praise, no less than 11 Trigonometrical Towers having been connected : of these, the Sirsa and Kistonuggur Towers falling within a short distance of the main circuits have been made circuit stations of the Revenue Survey, which is highly advantageous, whilst the remainder have all been laid down in the usual way, and their direct distances calculated accordingly, and the same tabulated with a view of a comparison between the two results. The comparative differences and the ratio of error per mile of the Revenue Survey, taking the Great Trigonometrical Survey operation as errorless, is as follows :—

Distances of G. T. S. Station.		From Revenue Survey.	From G. T. Survey.	Error of Revenue Survey.	Error per Mile.
		Feet.	Feet.	Feet.	Feet.
1	Beliaiti to Jeodhara,	48892·90	48954·5	— 71·60	7·73
2	Jeodhara to Arbandi,	59722·74	59747·7	— 24·96	2·20
3	Beliaiti to Arbandi,	46095·06	46131·6	— 36·54	4·18
4	Arbandi to Anandbas,	48164·16	48206·0	— 41·84	4·58
5	Anandbas to Bahadurpoor,	40553·70	40544·4	+ 9·30	1·21
6	Arbandi to Bahadurpoor,	49456·44	49533·6	— 77·16	8·23
7	Jeodhara to Anandbas,	54075·12	54114·3	— 39·18	3·62
8	Bahadurpoor to Dogacha,	49403·64	49449·8	— 46·16	4·93
9	Dogacha to Gobindpoor,	49254·48	49297·7	— 43·22	4·63
10	Gobindpoor to Kistonuggur,	56204·94	56250·8	— 45·86	4·30
11	Gobindpoor to Teragari,	61218·96	61241·3	— 22·34	1·92
12	Kistonuggur to Teragari,	49387·80	49423·3	— 35·50	3·79
13	Kistonuggur to Modhoopoor,	51210·06	51254·1	— 44·04	4·54
14	Teragari to Modhoopoor,	55797·06	55862·9	— 65·84	6·23
15	Modhoopoor to Sisa,	43765·26	43809·0	— 43·74	5·27
16	Teragari to Sisa,	52012·62	52045·0	— 32·38	3·28
Difference,		815204·94	815866·0	— 661·16	4·43

39th. The total distance contained between the extreme Towers throughout the series from Beliaiti to Sisa is by Great Trigonometrical Survey 8,15,866·0 feet or 154·52 miles. By

the Revenue Survey the same distance between the same Towers amounts to 8,15,204.94 feet, or 154.39 miles, showing a defect of 661.06 feet, or a mean average of 4.4 feet per mile, the greater error being 8 feet and the least 1.2 feet per mile. Observations for azimuth to check the deduced meridian were also taken in 17 different parts of the work, which have tended to produce the above very favorable comparison.

40th. A good connection between Major Smyth's Survey and that of the 4th Division in the Moorshedabad District, as well as with the 1st Division across the Ganges has been established, and afforded very satisfactory results.

41st. Major Smyth reports, that the thakbust continue to be excellent, and to serve every purpose of the Survey, and out of 515 containing interlaced Demarcations. estates and detached lands, the whole of the detail areas have been calculated in his Office, only 21 cases of boundary differing from survey, appear to have occurred, of which 20 cases were returned by the Superintendent, the surveyed boundary being the correct one, and in one case the thakbust boundary was upheld.

42nd. The labors entailed by the Mehalwaree calculations, is stated to have been lighter this season, comprising only 14,362 chucks or parcels appertaining to 515 hulkas belonging to different mehals, being below the Calculation of internal estates. number calculated during the previous season by 35,039 chucks, and the expense set apart for this purpose is Company's Rupees 1,098, which gives 1 anna and 2 pie per chuck. It appears that it was only found necessary to measure one village by a regular field by field khusreh measurement. The Nuddeah District is a particularly favorable one as regards the nature of the village and estate holdings.

43rd. The completion of the Survey and mapping of Pergunnah Puchanundgram, as Puchanundgram, or far as Major Smyth's competency is concerned, has been effected. The environs of Calcutta. block maps of this Survey, alluded to in the 32nd paragraph of my last Report, comprising the 4th, 5th and 6th Divisions, on the scale of 150 feet to the inch, include his own Survey, whilst the 1st, 2nd and 3rd Divisions, on the scale of 300 feet to the inch, represent the late Mr. Crow's work; and of which copies of each block have been again made with a view of making the records of this Government Estate as complete as possible. The whole have been bound together in one volume, which, with its title, index, and reference map, is a very valuable record, and reflects much credit on Major Smyth, the same is submitted for the inspection of the Board. It is proposed to furnish a detailed Statement in English of each Division, showing the area of each holding, name of proprietor, and nature of tenure as soon as the settlements are completed. This will be a very useful and necessary appendage to the maps. A duplicate volume, complete in every respect, has been made over to the Collector of the 24-Pergunnah District. I propose to lithograph the entire map of this Estate on the 6-inch scale as soon as possible.

44th. The total area of the three first Divisions, according to Mr. Crow's calculation and furnished by the Collector, is 7,375 acres, 2 roods, 26 poles, exclusive of roads and drains. The total area of the other three Divisions amounts to 6,880 acres, 0 roods, 16 poles, inclusive of roads and drains. The total area of the exterior boundary of the whole of Puchanundgram, as per survey, however, is 14,956 acres, 2 roods, 5 poles. Deducting the sum of the six Divisions as above noted from the latter area, leaves a balance of 700 acres, 3 roods, 3 poles, which Major Smyth considers as the area of roads, drains, &c., in the first three Divisions of Mr. Crow's work. This is rather more than 9 per cent., 5 per cent. being what is generally allowed for roads, &c., and such is the average on the three Divisions surveyed by Major Smyth. The Collector and Settlement Officer however are satisfied, and that this area for road and

drains in these three Divisions is not over-estimated. It is not practicable now to derive a more accurate return of Mr. Crow's three Divisions.

45th. The total expense incurred on account of the Punganundgram Survey and mapping amounts to Company's Rupees 11,355-8-7,* being from the 1st November 1848 to the end of July 1854, which is within the annual maximum for the same period by nearly one-half the authorized grant.

Final Cost.			
* From 1st Nov. to the end of Dec. 1848,	.. .. .	331	0 0
From 1st Jan. to the end of Dec. 1849,	.. .. .	2,204	5 3
From 1st Jan. to the end of Dec. 1850,	.. .. .	2,093	12 6
From 1st Jan. to the end of Dec. 1851,	.. .. .	2,093	9 4
From 1st Jan. to the end of Dec. 1852,	.. .. .	3,444	5 11
From 1st Jan. to the end of Dec. 1853,	.. .. .	1,041	7 7
From 1st Jan. to the end of July 1854,	... .. .	147	0 0
Total, Co.'s Rs.		<u>11,355</u>	<u>8 7</u>

The expense being distributed over the extent performed by Major Smyth, it gives an average of Rupees 165-0-6 per 100 acres.

46th. Major Smyth, in conclusion, reports, that he has received zealous and hearty co-operation from his assistants, and that he cannot praise them too highly for their exertions during the season under review. In consideration of which, the promotion of the three assistants as per margin, is recommended, and has my support to the extent specified. The increased salaries have effect from the 1st January, subject to the usual confirmation.

Character of Assistants.

- Mr. W. Ivey from 200 to 225.
- " W. Davey from 150 to 175.
- " P. Agabeg from 100 to 150.

47th. This establishment, of the strength specified in the margin, under the superintendence of Mr. Alexander Wyatt, commenced field operations at the beginning of December 1853, continuing the same to the end of April 1854, a few detail parties being detained in the field during a portion of May.

3RD OR EASTERN DIVISION, MYMENSING.

Revenue Surveyor—

Mr. A. Wyatt.

Assistant Surveyor—

Mr. C. Bell.

Sub-Assistants—

Mr. G. S. Swiney.

Mr. S. Philipps.

Mr. A. Philips.

Mr. J. K. Moran.

Draftsman—

Mr. G. C. Bolst.

21 Native Assistants—

Area performed 864.07 square-miles.

Average cost, Rupces 34.7-4 per square-mile.

	No. of Villages.
District { Alapsing,	469
Mymensing. { Itun Bhowal,	219
{ Pokhureea,	133
{ Shorpore,	1
District { Bhowal,	53
Dacca. { Ichapoor,	5
	<hr/>
Total,	880
Circuits of Brahma- pootra River and Sandbanks,	4
	<hr/>
Grand Total,	<u>884</u>

48th. The extent of work performed contains the survey of two entire, and portions of four other pergunnahs, as detailed in the margin. These 880 villages formed 908 demarcated circuits, the average area of which come up to 586 acres, after excluding the river circuits, which is in excess of the former season's average by no less than 213 acres. This surveyed tract extending in length, North and South, about 50 miles, and in breadth about 30 miles, lies on the right

bank of the old course of the Brahmapootra River, by which it is bounded on its Northern and North-eastern sides by the great belt of the Mudhoopoor jungle and hills, and surveyed portion of the former season on the West, and by District Dacca on the South, the Civil Station of Mymensing being included within, and forming the North-eastern extremity of the operations.

49th. The above circuits comprise an area of 864.07 square miles, of which 36.89 miles appertain to the Brahmapootra River; the Mouzawar area will therefore be 827.18 square-miles. Of these villages, 822 within four Tract surveyed. pergunnahs, belong to the District of Mymensing, and the remaining 58 to that of Dacca. The pergunnahs, as marginally quoted, may now be considered as the only ones completed of the District of Mymensing, notwithstanding, about half of the district is completed. During the course of the past five seasons, 3,415 square-miles have been surveyed; and the entire district, according to the best information, contains 6,865 square-miles: thus about 3450 square-miles, or as nearly as possible, one-half the district remains to be finished. The Pergunnahs of Hoosenshahee and Mymensing, East of the Brahmapootra, being taken up first during the current season.

50th. The total expense incurred amounts to Company's Rupees 30,410-6-0, of which Rupees 637-9-7 has been set apart on account of the portion of establishment employed on the calculations of Mehalwaree areas, the balance therefore of Rupees 29,772-12-5 is to be debited to the account of the Professional Survey. The rate for the village circuits has been struck after excluding the area of the four river circuits. The results of the past and previous season's proceedings will stand thus:—

Seasons.	Description of Survey.	Area surveyed in Square-miles.	Number of Village Circuits.	Average size of Village Circuits.	Cost.			Average rate per Square-mile.			Average rate per Village Circuit.		
					Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
1852-53.	Professional Survey,...	929.32	1374	372	27770	0	1	31	2	7	21	1	3
	On account of Mehalwaree Calculations, ... ..	....	....	....	1191	8	0	0	0	0	0	0	0
1853-54.	Professional Survey, ..	864.07	908	586	29772	2	5	34	7	4	31	7	3
	On account of Mehalwaree Calculations, ... ..	....	....	....	637	9	7	0	0	0	0	0	0
	Difference,	- 65.25	- 466	+ 214	+1448	13	11	+ 3	4	9	+ 10	6	0

The average rate per square-mile is higher than that of the previous season by Rupees 3-4-9, and per circuit by Rupees 10-6-0, which is much the same as for the last three seasons, and considerably below that of the two former ones in Mymensing, as marginally quoted. Mr. Wyatt's present rate, however, is considerably higher than that of all the other Bengal Surveyors for this season. The return of work is rather small, and the season employed, a short one, which Mr. Wyatt accounts for in the manner described in the annexed extract from his Report; and as it is clearly shown that the Surveyor com-

Extract.

Para. 11th. "The above rate is in excess of the past two seasons, but it has been unavoidable. The peculiarity of the country under survey this season, rendered field operations difficult and harassing; about one-third, at least, of the country being rugged and covered with dense forest, and the difficulty of movement throughout, being particularly felt from want of elephants, where no other sources of conveyance are procurable on any terms. Elephants were subsequently supplied, but

described in the annexed extract from his Report; and as it is clearly shown that the Surveyor com-

not till late in the season, when the jungle portion of the work had been with great perseverance and difficulty finished. I deem it my duty to state, that, notwithstanding the difficulties which impeded progress, the whole of the tract of country demarcated and made over for survey, has been finally completed, and if more work had been made over a greater extent of area would have been surveyed, which would certainly have reduced the mileage cost to at least the last season's rate. But I beg respectfully to observe, that the rate of cost per square-mile can hardly be deemed a fair criterion of the season's work, depending, as it does, principally on the extent of area demarcated a-head of the survey, to say nothing of other circumstances which impede progress, in the shape of numerous contested and unsettled boundaries, which require double measurements, and the difficult nature of the country under survey."

with him, that the present rate is not a fair criterion of the capabilities of his Establishment, the more especially as from the much higher average size of the village, a considerable increase in area might reasonably have been expected.

51st. The difficulties which have to be contended against by the Civil Branch of the Survey in this district, are avowedly great, and the delays caused by the immense number of disputed boundary cases and intricate intermixture of estates, as detailed in the 39th paragraph of my last Report, unavoidable under the existing system; but it will be evident that these facts only more strongly necessitate a corresponding increase to the Civil Establishment to ensure an amply-prepared field for survey. In Mymensing, notwithstanding the best management with the allowed means, and the most energetic and cordial co-operation of the Civil Superintendent, a satisfactory out-turn cannot, as yet in a period of five seasons, be said to have resulted.

52nd. It is to be hoped, that such arrangements will be made for this Surveyor during the present season as will ensure this end, as with his increased means now authorized for the professional branch, extended progress will be of easy attainment. The transfers necessarily

Extract.

Para. 9th. "Adverting to your 14th and 20th paragraphs, I consider it necessary to inform you, that from the state of the progress made this season by the Thakbust Ameens, a greater extent of area for season 1855-56 seems problematical, owing to the enormous number of disputes; the whole of the Superintendent's establishment have (under instructions from the Board of Revenue and Controller of Surveys) been, till about the beginning of this month, employed exclusively on "*Sur Zumeen Tudarek*," and settlement of disputes; and I have been informed, that the additional Peshkar and Ameens lately appointed, were unable to commence demarcations for want of surveying instruments, which have just been received per steamer; I am however in communication with the Superintendent on the subject, and though the season is far advanced, I indulge the hope that a fair return may yet be prepared a-head of the survey, by employing the greater number of Ameens on the interior boundary demarcations only."

pleted the whole of the tract of country prepared and made over to him, and that had more area been demarcated, it would have been surveyed; I cannot but concur made from the Assam Survey, will, doubtless, enable Mr. Wyatt to get through considerable more work, and further recruiting must be provided for, so as to bring his party up to the full strength next season.

Mr. Wyatt, however, seems to think, under the circumstances stated in the annexed extract from his Report, that, from the state of the progress made this season by the Thakbust Ameens, a greater extent of area for season 1855-56, seems very problematical. I would therefore earnestly solicit attention to this important matter.

53rd. The records prepared by this Surveyor, are as specified in the margin;* the general

Records prepared.

* 3 general Maps on a scale of 1 inch to the mile, for deputy Surveyor General's Office.

- 3 general Maps for the Collector, not completed, but well advanced.
- 1 Index Map of the season's work, on a scale of 2 miles to the inch.
- 4 volumes containing 821 Village Plans, in duplicate.
- 59 Village Plans, in duplicate, stitched together.
- 3 Main Circuit Traverses for Deputy Surveyor General's Office.

Maps, and the Index Map of the season's operations, together with the main circuit calculations, have been lodged in this Office. The former

are elaborately got up and very good specimens. I now propose to publish the Western Division of this district as far as surveyed, with as little delay as possible, geographical information of all the Eastern districts being greatly needed.

- 64th. The several volumes of Village Plans and Registers of the past three seasons, as specified in the margin, have been lodged in this Office in good condition. They are very substantially and neatly bound, and have been got up with much care, and are creditable to Mr. Wyatt's establishment. The first three volumes of Pergunnah Pokhareea are complete with
- | | | |
|---|---|--|
| 5 | Volumes of village Plans of Pergunnah Pokhareea, District Mymensing | |
| 8 | ditto Ditto of Burbazoo ditto. | |
| 1 | ditto Ditto of Mookeemabad and Japurshahee ditto. | |
| 1 | ditto Ditto Japurshahee ditto. | |
| 1 | ditto Ditto Kagmaree ditto. | |
| 1 | ditto Ditto Run Bhowal ditto. | |
| 2 | ditto Ditto Alapsing ditto. | |

14

areas, though he apprehends alterations in some of their boundaries, and "recorded village areas" may yet be needed. The other volumes have their "recorded areas" left in abeyance, pending the receipt of correct list of outstanding arazees belonging to them from the Superintendent's Office.

55th. The eight volumes alluded to in the 38th paragraph of my last Annual Report are still with Mr. Wyatt. He was unable to supply the omissions of the names of the sites of villages or tolahs, &c., during the past recess, but purposes to do so during the ensuing recess.

56th. Seven volumes of Village Plans of the past season's survey, have been made over to the Civil Superintendent, whose receipt for the same has been furnished to this Office. Duplicates of the Pergunnah Plans, have also been duly furnished.

57th. Seven hundred and twenty-seven village Thakbust Maps, containing internal estates, have been calculated in Mr Wyatt's Office, of which 341 were obliged, from their extreme intricacy, to be totally calculated and 386 partially so. The total number of chucks or parcels of estates, amounts to 23,152. The expense incurred for this duty, amounts to Rupees 637-9-7, or about 2½ pie per chuck. Only three villages are reported to have been measured, field by field, the difference between these measurements and the professional area amounts to about 7 per cent.

58th. From specimens of villages containing Mehalwar Sub-division, which have lately come under my inspection, it appears to me that a field by field regular internal estates. khusreh measurement ought to have been prosecuted in these instances. The state of these maps, although on so large a scale as 16 inches to the mile, is beyond either professional or non-professional comprehension; and I feel satisfied that such documents never can possibly elucidate properly the extraordinary intermixture and minuteness of the various parcels composing the estates. A field by field measurement is evidently necessary in many more instances than are now adopted; and for all practical purposes too wide an interpretation seems to have been taken of the rules issued by the Board on this head.

59th. Mr. Wyatt reports that no masonry pillars have been built as they were not required, but some very good conspicuous permanent objects, which have fallen within the course of the season's operations, have been fixed, the meridian and perpendicular distances of which have been calculated from one fixed point of departure and furnished to this Office. The above objects will be very favorable for connection with any Great Trigonometrical Survey operations hereafter.

60th. The information contained in the annexed extract from Mr. Wyatt's Annual Report respecting the comparison of the professional maps with those produced by the thakbust establishment, appears very unsatisfactory. Alterations

Extract.

Para. 19th. "The comparison of the boundary sinuosities between the professional and thakbust maps has proved satisfactory, a few trifling discrepancies in the latter document having been readily corrected by the Superintendent's establishment. But the alterations and revisions of the boundaries in about one-fourth of the season's work have caused great inconvenience and interruption to the recess duties, and yet the result is unsatisfactory, as the Superintendent is of opinion, that many of his deputy's decisions may yet require revision on coming up in appeal before him, a few of these cases (being of the demarcation of 1852-53) yet require personal

Demarcations.

inspection in the field. For the approaching season the areas of disputed cases requiring settlement are so heavy in this Division, that I fear more than half of the village boundaries will have to be left unsurveyed. The subject of this harassing interruption to the completion of the season's work has been so often brought to notice, that any further mention, on the present occasion, may be unnecessary, though I would indulge the hope that this serious obstruction to our duties may not be lost sight of in collating the mileage rates of the present and past season's surveys."

and revisions after survey of the boundaries to the extent of one-fourth of the villages of the season's

work, must lead to the greatest possible inconvenience and interruption to the recess duties.

61st. Mr. Wyatt, in conclusion, reports, that he has received zealous co-operation from both his European and Native Assistants, their conduct throughout being highly satisfactory. Mr. H. M. Smith, transferred from the Assam Survey, has been strongly recommended for promotion both by Mr. Wyatt and Mr. Assistant Surveyor J. H. O'Donel, late in charge of that party, in consideration of which, I have noted him for an increase of 25 Rupees, which will make up his salary to 175 Rupees per mensem, to have effect from the 1st January, subject to the usual confirmation.

Allowed maximum,	31,287	0	0
Deduct expended,	30,413	8	6
Savings, Rs.	<u>873</u>	<u>7</u>	<u>6</u>

62nd. The total savings effected by this establishment amount to Company's Rupees

873-7-6, as specified in the margin.

63rd. On the 15th November 1853, this establishment, of the strength specified in the margin, took the field in the Moorshedabad District, and as stated in the 52nd paragraph of my last Report, the superintendence devolved from the 6th January 1854 on Captain J. E. Gastrell, under whom the operations continued until the middle of May following, when the majority of the establishment returned to

4TH OR WESTERN DIVISION, MOORSHEDABAD.
Revenue Surveyors—
 Captain W. S. Sherwill, *on deputation.*
 Captain J. E. Gastrell, *Officiating.*
Assistant—
 Mr. C. Bradley.
Sub-Assistants—
 Mr. Robert Smart.
 " A. Smart.
 Baboo Lullaram.
 Mr. J. Pickard.
 24 Native Assistants.
 Area performed, 1161.22 square-miles.
 Cost per square-mile, Rupees 25-6-11.

the margin, took the field in the Moorshedabad District, and as stated in the 52nd paragraph of my last Report, the superintendence devolved from the 6th January 1854 on Captain J. E. Gastrell, under whom the operations continued until the middle of May following, when the majority of the establishment returned to

Berhampore, leaving a few detail parties out in the vicinity of the station for some time longer.

64th. The extent of work performed amounts to 1,161.22 square-miles, comprising 1,366 village circuits. These demarcated circuits embrace no less than 2,669 uslee villages, or with "kismuts," &c. 4,072. The whole appertains to portions of no less than 58 pergunnahs of zillah Moorshedabad and the adjoining districts, the most prominent of which are enumerated in the margin. The average size of the village circuits is 531½ acres, as near as possible what it was the previous year. Inclusive in the above area are four circuits of the Bhagiruttee and Ganges Rivers, amounting to 42.76 square-miles. The tract surveyed consists of the Central and North-eastern portion of the district South and East of last year's work, extending to the Ganges River in the vicinity of the station of Rampore Bauleah, and bordered on the West by Beerbhoom, and on the East by the Jellinghee River and Districts Rajshahyee and Nuddeah, and including the city of Moorshedabad and Cantonments of Berhampore.

65th. The total expenditure for the season amounts to Rupees 29,794-2-2, of which Rupees 29,533-2-2 is on account of the Professional Survey; and the balance Rupees 261 for the calculation of the petty estates on the maps furnished by the Civil Department. This is below the allowed Annual Grant by Rupees 1,492-13-10 as

Allowed Maximum Grant, ..	31,287	0	0
Deduct expended,	29,794	2	2
Savings, Rs., ..	1,492	13	10

shown in the margin. The average rate per square-mile is consequently Rupees 25-6-11, and per village circuit Rupees 20-13-2, the area of the river circuits being excluded. These results in comparison with

those of the previous season stand as follows:—

Seasons.	Districts.	Area surveyed in Square-miles.	Number of Hulka or Traverse Circuits.	Average size of Circuits.	Cost.			Average rate per Square-mile.			Average rate per Hulka Circuit.		
					Rs.	As.	P.	Rs.	As.	P.	Rs.	As.	P.
1852-53,	Moorshedabad,	1035·30	1212	502	31285	8	0	30	3	6	25	13	0
1853-54,	{ Ditto,	1161·22	1349	531½	29533	2	2	25	6	11	20	13	2
	{ Mehalwaree Cacula-tions,	0	0	0	261	0	0	0	0	0	0	0	0
	{ Difference,	+ 125·92	+ 137	+ 92½	-1491	5	10	-4	12	7	-4	15	10

66th. The above differences are considerably in favor of the past year's proceedings by 125·92 square-miles of area in excess, and a consequent decrease of Rupees 4-12-7 in the mileage cost, and of Rupees 4-15-10 in the circuit cost. The out-turn is exceedingly good, and the rate only second to Major Smyth's for the season under review, as will be perceived from the general statement in paragraph 37.

67th. The value of the Moorshedabad Professional Survey is based on the following comparison of distances as derived by Captain Gastrell with the direct distances of the sides of the principal triangulation of the Great Trigonometrical Survey. The connection has been very carefully established by this Officer and fully reported on, and the results are as favorable as it is possible to bring the work with our present instrumental equipment and means. In fifteen sides, the maximum error is 7·11 feet, whilst the mean of the whole is only 2·80 per mile:—

Distances of G. T. Survey Stations.		From Revenue Survey.	From G. T. Survey.	Error of Revenue Survey.	Error per Mile.
		Feet.	Feet.	Feet.	Feet.
1	Kistonuggur to Modhoopoor,	51210·06	51254·1	- 44·04	4·54
2	Modhoopore to Sisa,	43773·18	43809·0	- 35·82	4·32
3	Modhoopore to Imamnugger,	44867·02	44812·1	+ 54·92	6·42
4	Sisa to Imamnugger,	55238·70	55228·1	+ 10·60	1·00
5	Imamnugger to Jitpoor,	52312·92	52302·6	+ 10·32	1·04
6	Imamnugger to Chatra,	59931·96	59924·3	+ 7·66	0·67
7	Sisa to Jitpoor,	67254·00	67184·4	+ 69·60	5·46
8	Chatra to Jitpoor,	64627·20	64585·1	+ 42·10	3·43
9	Chatra to Murcha,	54663·84	54690·2	+ 73·64	7·11
10	Jitpoor to Murcha,	58615·26	58571·6	+ 43·66	3·93
11	Chatra to Dabeepoor,	56917·09	56896·5	+ 20·58	1·90
12	Dabeepoor to Murcha,	57326·28	57313·9	+ 12·38	1·14
13	Dabeepoor to Madubpoor,	47323·98	47324·00	- 0·02	0·002
14	Chatra to Berhampore Hospital,	63061·68	63055·00	+ 6·68	0·55
15	Imamnugger to Berhampore Hospital,	73548·42	73555·00	- 6·58	0·47
Total,		850671·58	850405·90	+ 265·68	2·80

kind of figure, renders this a very laborious and troublesome work. I would also here remark, that it appears to me matter for very serious consideration, whether, in numerous instances, the measurements by Mehalwaree or compass and chain, have not been carried to far too great a length—some villages show their whole area full of hundreds of chucks, small and great, ill-shaped, contorted, and so mixed one with another, that I am convinced no other method than a most careful khusreh survey could possibly give their relative sizes, positions, and acres correctly."

2½ pie per plot of ground, or 1½ pie per acre, a very moderate rate. The Board may perhaps be in pos-

session of the reasons which actuated the Civil Superintendent, Mr. Money, in stopping this work; the circumstance was not communicated to this Office at the time, or I should have taken immediate steps to have rectified it, such a step being calculated to throw heavy arrears on the Surveyor and impede the professional arrangements generally.

72nd. I fully and entirely concur in opinion with this Surveyor that, in consequence of the tortuous shaped and numerous estates, and the extraordinary way in which they are mixed up one with another, the performance of this work is rendered most laborious and troublesome. It is also equally certain, as he justly observes, that the measurements of these internal estates by simply defining the exterior limits by compass and chain, have been carried too far. As stated in my 58th paragraph, I am quite convinced from the thakbust maps I have seen, especially of the Moorshedabad District, that nothing less than a most careful khusreh measurement, field by field, can ever lead to any useful results hereafter; and I believe that a bare inspection of these maps will satisfy the most sceptical of the reality of what I have stated; and every year's experience only tends to confirm me in this opinion of the system which I have held and expressed from its first introduction.

73rd. The assistants on this establishment continue under a change of superintendence, to maintain their character for zeal and assiduity. The individuals noted in the margin, have been strongly recommended for promotion, which I believe to have been well earned, and I therefore have authorized the increased salaries noted from the 1st January, subject to confirmation. Mr. Robert Smart is an efficient and hard-working Surveyor and a good Draftsman, he is also by education and general intelligence, fully up to the position of a full Assistant Surveyor. Mr. A. Smart is likewise a very promising and pains-taking assistant, and I have no doubt that the encouragement now proposed to be bestowed will incite both these young men to a continuance of their previous approved exertions.

74th. The field operations in this Division commenced on the 17th December 1853. Mr. J. H. O'Donel, of the 1st or Northern Division Revenue Survey, whose deputation to the charge of the Assam Survey was confirmed by the Government of Bengal, as communicated in Mr. Under Secretary Young's letter, No. 1029, of date the 9th idem, to your address, took charge of the establishment from Mr. John Kelso at Gowalparah on the 21st of the same month, as intimated in the 56th paragraph of the last Report. Mr. Kelso has received his superannuation pension of Rupees 114-8 per mensem, under the Orders of Government of Bengal No. 527, dated the 3rd July 1854, which has been confirmed by the Government of India.

5TH DIVISION, GOWALPARAH.
Assistant Surveyor, in charge—
 Mr. J. H. O'Donel.
Sub-Assistants.—
 Mr. H. M. Smith.
 „ G. Thompson.
 11 Native Assistants.
 Area performed 10,21'92 square-miles.
 Cost per square-mile, Rupees 14-5-5.

75th. On arrival at Gowalparah, Mr. O'Donel found an arduous season's work before him, and he zealously labored until the end of May 1854 to complete it. The area performed amounts to 1,021'92 square-miles inclusive

Tract surveyed.

of 2,446½ acres of detached villages situated in the Districts of Rungpore and Kooch-Behar. Of this area 43·20 square-miles, only of 34 lakhiraj villages, were divided Mouzawar; 228·95 square-miles belong to three Circuits of the Brahmapootra River, and extensive chur lands, together with the portion of hills on the Southern and Eastern boundary of Pergunnah Karibaree; and the remaining 749·77 square-miles is the geographical survey divided off

Villages.	
Purbutjoar,	52
Noabad Futooree,	1
Gola Alungunge,	1
Ghoorla,	62
Mukrumpoor,	22
Tareea,	32
Karibaree,	141
Total,	<hr/> 311 <hr/>

in 25 interior circuits, containing 277 villages, appertaining to the seven pergunnahs as specified in the margin, forming the Western portion of the District of Gowalparah, situated on both sides of the Brahmapootra River. The entire river and churs to the West of the Karibaree Pergunnah, which it was essential to lay down carefully, with a view to a complete geographical survey, and to show the ever-varying changes made by this important stream, belong to the Rungpore District, the khas Chur Rahoonaree being in dispute between the Bahirbund Zemindar,

District Rungpore, and the Karibaree Zemindar of District Gowalparah. The line of boundary of the Mymensing District along the Southern foot of the Garrows, extending from Hatipagur, *viâ* Bygonbarry, to Doomurtolla Haut, both belonging to Mymensing, has also been carefully carried out, and must have proved a difficult undertaking. This will form a good connecting link with the operations of the 3rd Division. The general map of this district can now be compiled in a very satisfactory manner, and the same is in a very forward state preparing for early publication.

76th. Of the above area, the details of cultivation, culturable, and barren waste and all geographical features, have been separately and minutely surveyed, every place of importance, both within and without the boundary of the district being recorded. The extent of cultivation amounts to 201¼ square-miles, about one-fifth of the entire area. Considering the particularly jungly and hilly state of these pergunnahs, the unhealthiness of the climate, and all the duties Mr. O'Donel had to perform, the completion of the district in a single season, and the manner in which he carried out the

Copy.

" I have the honor to acknowledge the receipt of your letter, No. 9, of the 25th instant, reporting on your proceedings during the last season's survey, accompanied by a map of Pergunnah Karibaree for reference.

2. I beg to say, that I have read over your Report with attention and compared the account of your operations with the work shown in the map; and to the best of my judgment, your proceedings appear to have been very satisfactory, and conducted with much care and judgment.

3. The boundaries as laid down by you seem to me to be correct as far as I have any means of knowing, and I beg to convey my confirmation of them herewith, and to return the map which accompanied your letter.

4. As this is probably the last occasion I may have of communicating with you regarding the Survey Department which has lately been under your superintendence, and is now ordered to be broken up, I take the opportunity of expressing my entire approval of the manner in which you have conducted it since you have been in charge, and my regret that the further duties, on which I proposed you should be employed, are to be postponed for the present."

(Signed) F. JENKINS,
Commissioner.

instructions furnished to him, is highly satisfactory and reflects much credit on himself and establishment. The opinion of the Commissioner contained in his letter quoted in the margin on this subject, is equally satisfactory and creditable to the Assistant Surveyor's management.

77th. The Pergunnah Maps, as specified in the margin, have been very well got up, and fully evince the pains Mr. O'Donel has taken in their preparation; they have been compared with the old maps of the former survey, and

Records prepared.

- 3 Pergunnah Maps in duplicate, on the scale of 1 mile to the Inch.
- 34 Village Plans and Registers, bound up in 1 volume, in duplicate.
- 19 Large Boundary Maps for the Civil Authorities.
- 1 Volume containing 25 interior, and 2 connecting circuits for this Office.
- 1 Volume containing 6 main Circuit Traverses.
- 3 Maps of Boundary disputes for Civil Authorities.
- 1 Index Map of the season's work, on the scale of 4 miles to the Inch.

the difference is very striking. The present maps appear complete in every respect. The

Karibaree Map altogether is precisely what was wanted. Mr. O'Donel adds, that owing to inroads of the Brahmapootra River, the decisions of Civil suits and cases now pending in the Civil Courts, he could not in all places adopt the old boundary as laid down by Mr. Bedford in 1839, but since the present survey has been fully approved and confirmed by the Commissioner, the result may be considered in every way satisfactory.

78th. The total expense incurred for the performance of the above field and office work amounts to Company's Rupees 14,652-6-8 being short of the allowed maximum by Rupees 2,423-9-4 as noted in the margin. The average rate per square-mile being Rupees 14-5-5 almost the whole of the work being geographical, no fair comparison can be made with the other Bengal surveys, but the rate for the usual description of survey executed in Assam for the past five years, is as quoted in the margin.

Cost and rate.	
Allowed Maximum,	17,076 0 0
Deduct expended,	14,652 6 8
Balance, Rupees	<u>2,423 9 4</u>

	Rs. As. P.
1848-49,.....	14 9 0
1849-50,.....	14 12 7
1850-51,.....	42 8 1
1851-52,.....	28 12 7
1852-53,.....	23 9 1
1853-54,.....	14 5 5
Mean,	<u>23 1 4</u>

Seasons.	Description of Survey.	Area surveyed in Square-miles.	Number of Villages.	Average size of Villages.	Total Expense.			Average rate per Square-mile.		
					Rs.	A.	P.	Rs.	A.	P.
1852-53	Mouzawar Survey of Lakhiraj Villages, ..	60.00	19	2021	13833	7	3	23	9	1
	Geographical Survey, ..	527.03	0	0						
1853-54	Mouzawar Survey of Lakhiraj Villages, ..	43.20	34	813	14652	6	8	14	5	5
	Brahmapootra River and Chur Lands, Hills, &c., and Geographical work,)	978.72	0	0						
	Difference, ..	+434.89	+15	-1208	+818	15	5	-9	3	8

The above statement shows that the proceedings of the past season are highly favorable in every respect. In the first place there is an increase over the previous season's area by 434.89 square-miles, and *secondly*, there is a decrease in the mean average rate per square-mile by Rupees 9-3-8. The large tracts of geographical work, and the survey of the Brahmapootra River and chur lands and hills of Pergunnah Karibaree have tended materially to produce such an extent of work. The boundary survey of Pergunnah Purbutoar containing about 200 square-miles, was partially completed during

Extract.

Para. 19. "The greater part of the tract surveyed is dense forest. In Pergunnah Purbutoar it was found desirable to accelerate progress, several parties came in sick; the Purbutoar forest is deadly at all seasons of the year, and I took the earliest opportunity of withdrawing my detail parties rather than risk the non-completion of the season's work from sickness. Karibaree is considered equally

tially completed during season 1852-53, as stated in the 54th paragraph of my last Annual Report, but

unhealthy ; I had not been a fortnight on the pergunnah, when most of my parties were disabled by sickness. It did not however last long this time. In my letter No. 39, dated 4th July 1834, I have detailed the difficult nature of the country surveyed. The precipitous hills, 400 and 500 feet high, were accessible only by ropes and ladders after a path-way was cleared ; 20 miles of boundary left unsurveyed by Mr. Bedford and considered by him impracticable, was finished by me in the month of May, when the rains had set in, every nuddee filled, and almost impassable from the rush of water. It gives me great pleasure to mention the energy and continued perseverance with which my assistants, both European and Native, exerted themselves.

"About the 20th May, sickness again appeared, scarcely an individual on the establishment escaped fever this third time, but the work was all proved. I waited till the end of the month to complete interior details, and break up the field establishment. Although I was suffering from a severe attack of jungly fever at the time, it was very satisfactory to know that I carried out your orders to complete Karibaree. Unusual sickness was not the only disadvantage I had to deal with."

fecting the survey of this district he has encountered many difficulties.

79th. The thakbust papers of the exterior boundaries of Pergunnahs Purbutjoar, Gola Demarcations. Alungunge, and Noabad Futtooree, and three lakhiraj villages demarcated by Mr. Bedford, were in the Surveyor's hands when the operations commenced, the other Pergunnahs of Ghoorlah, Mukrumpoor, and Tareea, were demarcated by Mr. O'Donel and all disputes settled by himself. The comparison between the professional and thakbust maps proved satisfactory, the latter documents having been prepared according to the new system, by scale and compass.

80th. The pergunnah triple-junction Stations have been well marked with broken Pottery, saul posts, large heavy stones, and all conspicuous objects Identification of Survey points. in the vicinity have been laid down. Due steps have likewise been taken, that the Revenue operations in Gowalparah, may be carefully connected with the Great Trigonometrical Survey now passing through the Rungpore District and intended to traverse the valley of Assam ; and the Officer in charge of the Great Trigonometrical Survey party has been furnished with the necessary data and sketch maps.

81st. A favorable report of the European and Native assistants has been made. Mr. Character of Assistants. Sub-Assistant H. M. Smith's successful and continued exertions have entitled him to the promotion for which he has been recommended. He is a most hard-working and useful assistant, I have accordingly noted him for an advance from 150 to 175 Rupees per mensem from the 1st January last, in anticipation of confirmation. This Sub-Assistant has been transferred together with the Native Assistants to the 3rd Division in Mymensing. Mr. G. H. Thompson is stated to have had considerable experience in field duties during the past season : he has now been posted to the 2nd Division under Major Smyth. A few Native Surveyors and measurers or tindals have likewise been transferred to the 1st Division under Mr. Pemberton, whilst such men as objected to leave Assam were paid up and discharged.

82nd. The District of Gowalparah may be considered to be completed with the exception Completion of District. of the Garrow Mehals and Kooch-Behar which falls within the revenue jurisdiction of this district. The Commissioner of Assam, in reply to the inquiry made by the Board of Revenue, whether any objection existed on political or other grounds to the deputation of a party to take up the survey of these tracts, stated, that disturbances would not be unlikely to arise among the Garrow tribes, if the survey were undertaken contrary to the wishes of the chiefs ; and as respects Kooch-Behar, the rajah being a minor, his Officers being interested in concealing its resources, would not be likely to allow any advantage to the raj from the survey.

83rd. The only alternative therefore was to break up the party, which is to be regretted Survey party broken up. for many reasons, *first*, because a well-organized and competent establishment all ready on the spot, is able to execute work at a much more moderate expense than a new party can possibly expect to do it,

it was not included in the Returns owing to the circumstances therein stated. This has, for the most part, been redone this season ; and from the annexed extract of Mr. O'Donel's report, it will be seen that in ef-

the grant also lapsing from the funds of the department, and *secondly*, when efficient Superintending Officers are employed to great advantage in conducting a survey, and have deserved well of the State, it is poor encouragement to direct them to revert to a subordinate position, which, in the case of Mr. O'Donel, has been done. It becomes my duty therefore to recommend this assistant, who has rejoined the 1st Division under Mr. Pemberton, for further employment in charge of an independent Survey whenever it may be practicable to do so; he has both during the past year, and on several previous occasions, done great justice to the duty with which he has been entrusted, and is a most deserving and efficient Officer.

84th. This small party, the organization of which was noticed in paragraph 58th of my last

6TH OR ARRACAN DIVISION, AKYAB.
Assistant Revenue Survey in charge—
 Mr. H. A. Porteous,
Sub-Assistant—
 Mr. W. H. Pringle.
 10 Native Assistants.
 Area performed, 222½ square-miles.
 Cost per square-mile, Rupees 50-11-8

Report, commenced field operations about the commencement of December 1853, which were carried on to the 20th April 1854, when the Surveyor states, owing to the excessive heat, and continued rain, he could no longer remain out in tents and was compelled to return for the recess duties to Akyab. Owing to

the climate of Akyab, the surveying months are necessarily of short duration, never extending beyond the month of April, I therefore (bearing in mind the Board's views as expressed in letter No. 34, dated 20th July 1848,) approved of field duties being closed at the time specified, as it is of the highest importance to maintain the health of a party, wherein lies real efficiency. It is neither expected that in Arracan a Surveyor should be able to compete with the more favored parts of India.

85th. The survey of two circles, or main circuits of the District or Island of Akyab, comprising 39 keoukships, or villages, with a total area of 222½ square-

Tract surveyed. miles have been effected, the average size of the keoukships coming up to 3,658 acres. Of the above area 91 square-miles only are found to be under cultivation. The whole of the details have been minutely laid down.

86th. The total expense of this establishment amounts to Company's Rupees 11,307-1-4, which is less than the allowed Grant by Rs 7304-14-8

Cost and rate.			
Sanctioned Grant,	18612	0	0
Expended,	11307	1	4
Savings, Rupees ..	<u>7304</u>	<u>14</u>	<u>8</u>

as shown in the margin, giving for the square-mile Rupees 50-11-8 and for the keoukship circuit Rupees 290. These are high rates, but not higher than was to be expected from the nature

of the country under survey, and the very partial efficiency of a new party which it has been found most difficult to recruit.

87th. The style and execution of the drawing of the maps* rendered, is fair, but the writing and some of the printing is of a very inferior character, and they have been returned to the Surveyor for the purpose of correction and completion according to the remarks made upon them. Great difficulties are said to exist in

* 2 General Maps, including duplicate.
 78 Village or Keoukship Maps, including duplicates.
 1 Station Map, on the scale of 12 inches to the mile.

Arracan in preserving drawing paper from the extraordinary humidity of the atmosphere, and the appearance of the maps suffer in consequence. A remedy for this has been pointed out to Mr. Porteous, and which I hope will be effectual even in Arracan.

88th. The village Plans and Registers are very roughly done, and the numerical data on the backs much erased. I believe Mr. Porteous' health has been far from good

Character of work and of the Officer in charge. throughout the past year. Since his connection with this Office, I have found him desirous to do his best, but there appears to me throughout a want of that vigorous supervision which is absolutely essential, and without which no survey

operations can possibly proceed as they ought to do. • This Assistant has heretofore given satisfaction in carrying on the subordinate description of work with which he has been entrusted, but it appears to me, that he is scarcely equal to the task now assigned him of conducting a survey on a large scale ; and looking at the extent of the work proposed to be carried out in this Province, I feel satisfied that the only way we may hope to effect it, is by extending the establishment very materially, and placing it under competent management. Definite propositions to this effect will be submitted in good time for the next season.

89th. The difficulties of organizing a really effective establishment in Arracan, are avowedly great, but it is evident that with only one or two European Assistants, no provision is made for cases of sickness, and from the reports of the past two months, I fear little or nothing has been done, and that the out-turn will not nearly equal what is now recorded for 1853-54. Mr.

Full and efficient establishment required for this survey.

Porteous himself appears just now to be unable to take any part in the field duties, and his Assistant, Mr. Pringle, has left Akyab for Sandoway, I conclude, under medical certificate, both these Officers having been laid up with fever. Consequently the Native establishment unemployed becomes a drag on the mileage rate which would not be the case with an efficient staff of European assistants. The field-work has, under these circumstances, been reported to have ceased for the season.

90th. From the annexed extract of Mr. Porteous' report, it appears that there are no Demarcations.

Extract.

Para. 12th.—"There are no demarcations carried on in this province, but the Collector issues such stringent orders to the keouks and rowgoans in the perwannahs, directing their immediate attendance on the tindals, and render such assistance to them as will ensure a speedy completion of the work ; and it is further enforced in this perwannah, that both parties shall be present at the cutting of the lines, and also directs the daily supply of russud to the camp. Excepting in very few cases, the boundaries are natural ones. We have had cases of disputes which were brought to the notice of the Authorities at the time of survey, but I regret to observe, they were not settled till very lately. One of these cases occurred between the keoukships of Munchet and Mozai, the disputed boundary lay entirely through dense jungle and over hills, and doubt not, owing to this, earlier steps were not taken to its settlement ; and again, the frequent changes we have had of late in the Revenue Officers, has no doubt been the cause of further delay. A second case is between Munchet and a grantee which has not been done yet, but if done, it has not been reported. This grant is entirely surrounded by the lands of Munchet or what properly may be termed village within village. Beyond the assistance already mentioned, received from the Authorities, I cannot see what more they can do for us. The boundaries marked off by us, are not to be retained in some cases in their integrity, but on receipt of their maps, it is the intention of the Authorities to "double up" two or more keoukships into one, thus making our documents of no use. It pains me to think that after all my trouble, anxiety, and care to prepare valuable documents for the State, should be thus thrown aside as useless, and the attendant heavy expenses be brought to nought. Moreover I do not see the utility of doubling up these keoukships, unless it be to give a man power over a greater extent of country. The keouks are paid at a certain rate of percentage on their collection, however large or small, therefore I cannot see the object of doubling when no saving is made."

boundary demarcations carried on in his province prior to survey, but the Collector issues stringent orders to the keouks, &c., directing their immediate attendance on the tindals, that both parties shall be present at the cutting of the lines. In a densely covered country like Arracan, and where natural boundaries prevail to so large an extent, perhaps the limits of keoukships could not

be well marked off by a separate establishment, or it may not be necessary to do so, but as I observed in my Quarterly Report, dated the 18th April 1854, there is no guarantee for the accuracy of the boundaries so laid down, and shown on the professional maps. The presence of ryots or coolies to cut jungle for the Survey lines will be no bar to future litigation, and any surveyed boundaries may be immediately repudiated and contested, and the more especially so where there are no natural boundaries. The professional maps showing each keoukship, should therefore be formally acknowledged and declared by the Civil Authority to represent the true boundaries, and the signatures of the village authorities to this effect should be duly filed in the Collectorate.

91st. Cases of disputed boundaries are also noticed in the same extract. In the Survey Rules, Clause V., it is recorded that, "if the disputed boundary pass through cultivated land, it can be readily ascertained by reference to the Village boundaries.

Collectorate records, through what village Officer the owner or owners thereof have paid their assessment, and the boundary to be settled accordingly. If the boundary pass through jungle or waste land, it may be settled with reference only to the principle of convenience, and so also where no boundaries have ever been drawn, or are to be found." I conclude from this that in Arracan, boundaries, for the most part, are unknown, and therefore the survey operations will fix them for future adoption.

92nd. With regard to what Mr. Porteous mentions as to there being no utility in doubling up the keoukships, and that the value of his maps is greatly nullified thereby, the local Authorities are doubtless the best judges in this respect; and as far as this Officer is concerned it makes no difference, still the Surveyor is quite right to point out whatever he thinks objectionable or likely to detract from the utility of the survey, and as there seems to be no authoritative proceeding preparatory to survey, defining what a keoukship really is, the point may be worthy of inquiry.

93rd. From the annexed extract it appears, that the mode of carrying on the khusreh measurement tends to show that no reliance can be placed on the results. The cultivated tracts were likewise surveyed in great detail by the professional parties, as directed in the Commissioner's Rules, paragraph IV. Mr. Porteous

Extract.

Para. 13th. "There has not been a regular khusreh survey, but a rough survey by Native Agency of the cultivation only, which is done yearly under the superintendence of the keouk, or by the keouk himself, by measuring the length and breadth across a field, and by that means forming a square or irregular figure, and calculating the area by triangles; this method of working carried on here is most imperfect, and the area thus obtained is in no way tested. Nothing is attempted beyond the survey of the cultivation, and in case of error, there is no check. The exports from this port has of late years been more than doubled, consequently the cultivation must have increased in like manner. The area of cultivation obtained from the authorities differ so widely from ours, that it was brought to the notice of the Officiating Commissioner, who expressed no surprise at these differences, and he fully expected there would be such a discrepancy; the matter of reconciliation is in abeyance for the present, pending further investigation on the part of the authorities."

has been called upon to specify whether a comparison was effected with the khusreh measurement of the same tracts performed under the superintendence of the keouk, and what the difference was between the two results. In the Commissioner's Survey Rules it is laid down, that the kewanok, within whose jurisdiction the revagongships or villages are situate, is responsible for the accuracy of the Returns of the cultivation they contain, and which is to be checked by the professional survey. The degree of check applied should have been specified.

94th. The Surveyor remarks, that he has not lost sight of a Statistical Return, but that in the present season's work there is nothing of any note, but that in future operations many things of note will be met with, a number of which have come under his observation during the survey of the grants. On a reference to the Arracan Survey Rules, I find that on the conclusion of a keoukship or circle, he is to submit to the Principal Assistant to the Commissioner, a Statement (in the Form A., therein given,) exhibiting the description of total area surveyed, population, number of houses, ploughs, &c., and other statistical information. This statement will be immediately compared by the Principal Assistant to the Commissioner, with the actual settlement papers furnished by the kewanok. Mr. Porteous has now been directed to furnish some sort of tabular statement embodying this information of the tracts already surveyed during the past season, for the above purpose, leaving the general memoir, or description of the entire district, to be furnished on the completion of the survey.

95th. The field labors of the six separate establishments above enumerated, furnish, as may be supposed, no inconsiderable amount of work for the Superintending Office, in the combination, examination, and re-production of the topographical materials annually derived. In addition to which the out-turn of two double

The number of lithographed maps supplied to Officials is 1,759, and sold 593, the proceeds of which amount to Rupees 2,254; the description and quantity of each map disposed of being as follows :—

Description of Maps.	Supplied to Officials.	Number sold.	Amount realized.
District Maps, showing village boundaries, comprising 231 sections; scale 1 Br. mile = 1 inch, }	23	14	209 0 0
District Geographical Maps; scale 4 miles = 1 inch, ..	427	262	773 0 0
Index or Preliminary Maps; scale 4 miles = 1 inch,...	266	34	79 12 0
Pergunnah Maps; 1 mile = 1 inch,	207	106	212 0 0
City Maps,	161	23	159 0 0
Geological Maps,	1	4	12 0 0
Location Maps of Darjeeling,	0	5	11 0 0
General Maps,	674	145	798 4 0
	1759	593	2254 0 0
Earnings of the Lithographic Press,			240 15 0
Balance on last Account, <i>vide</i> paragraph 61 of last Report,			600 0 0
Total,			3094 15 0
Deduct Charges for coloring Maps by contract,			498 14 0
Total Assets,			2596 1 0
Lodged in the General Treasury, as per Sub-Treasurer's Receipt, No. 451, dated the 20th March 1855. }			1600 0 0
			996 0 0

99*th*. In addition to the above large supplies of lithographed maps, all ready colored, are sent to the North-Western Government for sale and distributed at Agra, and likewise to the Chief Commissioner for a similar purpose in the Punjab. The Curator of Government books at Agra reports, that between the 1st August 1853 and 30th June 1854, maps to the value of Rupees 819 have been disposed of, 482 being the amount of actual sales, and 337 the value of the maps delivered gratis to Government. The amount so realized has been credited to the North-Western Government. I hope in future to receive Annual Statements of these transactions.

100*th*. The issue of so large a number of printed maps, all requiring to be colored at the shortest notice, necessitates corresponding extra means for its efficient performance, and as the produce of the Lithographic Press is now daily increasing, this extensive additional work as provided for by employing extra Draftsmen, and paying them by contract, which expense is defrayed out of the sale proceeds, and the balance credited to Government as shown above.

101st. During the past year, 2,352 impressions have been thus colored, at an expense

1847 6th February,	1000
1849 30th October,	1525
1852 20th April,	4000
1853 15th April,	1000
1854 20th February,	1935
1855 18th March,	1600
Total,	<u>11060</u>

of Rupees 498-14, leaving a balance of Rupees 2,596 to the credit of Government, of which Rupees 1,600 have been deposited in the Government Treasury, the remainder being outstanding. With this sum now lodged, the total amount actually deposited in the Treasury is Rupees 11,060 as specified in the margin, which has accrued to the State by the efforts made in this Office,

to turn the results of the surveys now in progress to the best practical account, by making them as widely known as possible.

102nd. The influx of work caused by the demand for printed maps, and the correspondence and accounts connected therewith, has been severely felt in this

Proposition regarding
sale of Maps.

Office. As the surveys so rapidly extend, and the inquiries into the resources of the country advance, the sale of maps becomes a business

of itself. It is not in this particular branch that the duties of this Office have been annually expanding, the whole department has risen in respect of work in the ratio of the increased field establishments employed; the extension of British Territory and number of square-miles laid down. I am anxious, therefore, of being relieved of the duty of selling maps to private applicants. By making over a supply of all available maps to the book-sellers of Calcutta, they would be glad to undertake the task, on the usual commission, and Account Sales would be rendered periodically. In this manner the maps would also receive a much wider advertisement, than it is in my power to give them through the *Government Gazette* only; I beg therefore to solicit the sanction of Government to this arrangement, which will undoubtedly prove of very material benefit to my really over-worked establishment, whilst to the public it must be also more advantageous, and to the Government more economical than granting an additional permanent establishment for the purpose.

103rd. Of the maps lithographed in Calcutta, for the Revenue Department, in Bengal,

Pergunnah Maps; scale 1 inch.

8 Tirhoot District.
1 Bhaugulpore ditto.
2 Moorshedabad ditto.
1 Beerbhoom ditto.

12

63 copies of each of the Pergunnahs as specified in the margin, have been received from the Press, attached to this Office, and distributed both to official Authorities, as well as to private individuals. One hundred-and-fifty impressions of the preliminary Map of Rajshahye District, on the 4 mile scale; 200 impressions of the Tirhoot District, reduced scale of 8 miles to the inch, for the Statistical Report; and a complete map of the Town of

Calcutta and environs, on 6 inches to the mile, compiled chiefly from Major Smyth's Survey of Panchanogram, on the best available materials of the town itself, corrected and checked by the Surveyor to the Commissioners, for whose special use, and at whose expense, it was printed by order of Government. The sale of this map has therefore been exclusively for the benefit of the Conservancy Department, a sufficient number of copies being reserved for Government purposes.

104th. A vast amount of work, of a general character, has been performed by the Lithographic Press branch of my establishment during the past year.

Lithographic Branch.

Great progress was making in bringing out many of the Pergunnah and other Maps which had for so long been lying in arrears, but owing to a pressing emergency for Postage Stamps, I received the orders of the Supreme Government to execute in lithography, the necessary labels of different values, and from the 1st March 1854, the whole energies of the Establishment were applied to this object. The difficulties attending this task, especially at the commencement and throughout the hot season, were so great, and the quantities of the stamps required so large, that little or nothing

could possibly be done in the mapping way. With the aid of a considerable increase both to the establishment, and to the stock, made under the direct sanction of the Supreme Government, and by doubling the working hours each day, the object was attained, and stamps to the extent of 5,15,257 sheets, or 41 millions of heads, as specified in the margin,

	Sheets.	Labels.	Value in Rs.
Half-anna, blue,	333399	32018112	1000566
One-anna, red,	81858	7858368	491148
Four-anna, red and blue, 100000		1200000	300000
	515257	41076480	1791714

duly furnished for issue and general use on the 1st October last. The value of these stamps amounts to seventeen lacs, ninety-one thousand, seven hundred and fourteen Rupees, and the estimated cost to Government of producing

them, one anna and eleven pie per thousand heads. The performance of duty involving a laborious addition to my ordinary avocations and anxieties, has been the means of proving the usefulness of the Press attached to this Department.

105th. With the additional aid thus liberally granted to the Press Establishment, which

3 European Assistants,	} Per mensem Rupees 1852.
1 Press ditto,	
12 Native Draftsmen,	
15 Printers,	
15 Spongemen,	
3 Stone-cleaners,	
2 Paper-wetters,	
7 Ink-rubbers,	
45 Pressmen,	
3 Dufteys,	
Office Servants,	
Burkundauzes,	

now stands at the strength noted in the margin, the arrears of mapping have again been commenced on, and although a very few months during the year 1854, were employed on this duty, the most pressing description of work has been got through, of which the following is an abstract.

Description of Maps.	No. of Plans.	No. of Impressions.	REMARKS.
General,	10	3442	<i>The following are some of the principal Maps struck off:—</i> No. 3, or Bunnoo Northern Trans-Indus Frontier; No. 4, or Dera Ishmael Northern Trans-Indus Frontier; Damoodah and Dalkissore River; Embankment Map; Joseph's Map of the Grand Trunk Road; Prince of Wales' Island and Province Wellesley; Settlement of Naince Tal and its Approaches; Martaban Provinces; City of Lahore; City of Calcutta and Environs; Baree Dooab Canals, in 5 Sections. Meerut and Delhi, 2 mile scale; Rajshahye, 4 mile scale; Tirhoot, 8 mile scale. Of Bhaugulpore, Tirhoot and Moorshedabad Districts, Bengal, Bilheeree and Bareilly and Bonares Districts, N. W. P. Bengal and Behar, small Index; Disposition Map of the Bengal Army for Quarter-master General's Department; Sketch to illustrate a memorandum in the Geological Structure and mineral Resources. Roofings, Engineering Plans for D. P. W. Every description of form for Revenue and Great Trigonometrical Surveys.
District,	5	1795	
Pergunnah,	25	1705	
Miscellaneous,	3	987	
Small Plans and Sketches,	5	915	
Survey Dept. Forms, &c.,	32	101648	
Total,	80	110492	

106th. The establishment thus improved, not only in its numerical strength, but in point of experience and superior knowledge in overcoming the various difficulties which beset lithography in this climate, is now in a very efficient state, and making rapid progress in answering the numerous calls made upon it by the various Departments of the Public Service. The style of the work now turned out daily attests its superiority over the results of former years, and with the excellent presses, lithographic stones, and paper of the first quality, which have been added to the stock, both by purchase from the Military Orphan Society, as well as from the

India House, I trust soon to bring our impressions up to a fair comparison with any struck off in England.

107th. With regard to the economy of the Press, viewed as a Government Establishment,

			the estimate as de-
Number of Impressions of Maps printed,	110517		tailed in the margin
Value of the Drawings of ditto,	4129		has been made, show-
Value of preparation of Stamps, being half the expense of the } establishment of draftsmen and superintendence for the } time employed,	4641		ing the sum of Rs.
Value of Printing Maps,	5109		12,894 to its credit,
Value of Printing Stamps,	18842		based on the calcula-
Total value of Drawing and Printing,	32721	32721	tion of a fair trade
Cost of permanent Establishment,	18751		price for every hun-
Cost of additional permanent Establishment for Stamps,... ..	1076	19827	dred sheets struck
		<hr/>	
Balance to the credit of the Press, Rupees,		12894	

off. The whole of the establishment has worked zealously and with great effect and a considerable portion of it, under no ordinary circumstances, from six in the morning, with a short interval for food, until eight at night. The commendations before passed on Mr. H. M. Smith, the Superintendent of the Press, have been, if possible, more deservedly earned during the past year.

108th. With the above remarks, I leave the labors of the Revenue Survey Department, of the Lower Provinces, for the favorable consideration of the Government.

I have, &c.,

(Signed) H. L. THUILLIER,

Deputy Surveyor General.

REVENUE SURVEYOR GENERAL'S OFFICE ; }
Calcutta, the 1st March 1855. }



TABLE A.

6211
GENERAL RETURN of Professional Work for Season 1853-54, namely, from Cost, Area, and average Rates per Square

1 Divisions.	2 Names of Superintending Officers.	3 Names of Districts.	4		5
			Number of Per- gunnals.	No. of Pergun- nah or main Circuits.	
1st,	Mr. J. J. Pemberton,.....	Bograh,	6	} 10	
		Rungpore,	3		
		Dinagapore,	2		
		Mymensing,	3		
		Rajshahye,	10		
		Nuddeah,	1		
		Dacca,	3		
		Furreedpore,	1		
		Jessore,	1		
		Pubnah,	20		
		Ganges and Juboona Circuits,	0	0	
Portion of Establishment employed for the calculation of Mehalwaree Areas,	0	0			
Total,.....			50	10	
2nd,	Major R. Smyth,	Nuddeah,.....	Mouzahwar Survey,	7	5
			River Circuits,	0	0
			Portion of Establishment employed for the calculation of Mehalwaree Areas,	0	0
			Total,.....			7	5
3rd,	Mr. Alexander Wyatt,	Mymensing,	Mouzahwar Survey,	6	3
			Brahmapootra River and Sand,	0	0
			Portion of Establishment employed for the calculation of Mehalwaree Areas,	0	0
			Total,.....			6	3
4th,	Captain James E. Gastrell, ..	Moorshedabad, ..	Mouzahwar Survey,	58	9
			Circuits of the Bhagiruttee and Ganges Rivers,	0	4
			Portion of Establishment employed for the calculation of Mehalwaree Areas,	0	0
			Total,.....			58	13
5th,	Mr. J. H. O'Donel,	Gowalparah,	Mouzahwar Survey of Lakhiraj Villages,	0	0
			Circuit of the Brahmapootra River, Chur Lands, Hills, &c., on Southern Karibaree,	7	6
			Geographical Survey,	0	0
			Total,.....			7	6
6th,	Mr. H. A. Porteous,	Akyab,		0	2
			Total,.....			0	2
Grand Total and Average,.....			128	39	56

TABLE B.

of Native Establishment of each Survey for Season 1853-54.

Superintending Officers.	Khusreh, including Purtalling and Contract work.	Professional Survey, including Guard and Me- halwaree Com- putors.	Total.
	Rs. As. P.	Rs. As. P.	Rs. As. P.
.. Mr. J. J. Pemberton,	0 0 0	9245 0 0	9245 0 0
.. Mr. R. Smyth,	0 0 0	13035 2 9	13035 2 9
.. Mr. Alexander Wyatt,.....	0 0 0	10660 8 7	10660 8 7
.. Captain James E. Gastrell,.....	0 0 0	10633 12 0	10633 12 0
.. Mr. J. H. O'Donel,	0 0 0	5320 7 8	5320 7 8
.. Mr. H. A. Porteous,.....	0 0 0	4432 1 4	4432 1 4
Total, Native Establishment,.....	0 0 0	53327 0 4	53327 0 4
Add for European Superintendence,.....	0 0 0	89766 15 5	89766 15 5
Total, carried to Total A.,.....	0 0 0	143093 15 9	143093 15 9

(Signed)

H. L. THUILLIER,

Deputy Surveyor General.

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TABLE E.

GENERAL STATEMENT of Sums actually drawn, inclusive of Guards for the short drawn in each Class

Months.										Superintendent	
October 1853,	
November "	
December "	
January 1854	
February "	
March "	
April "	
May "	
June "	
July "	
August "	
September "	
Total drawn for each Class,										45	
Total passed for ditto,										46	
Total, Savings to Government,.....										1	

Of the above Statement, the following Table exhibits the Expense under each Class six Revenue Surveys.

No.	Surveys.	Surveyor's and Contingent Allowances.			No.	Assistants.			No.	Guards.			No.	Native Surveyors.			No.
		Rs.	As.	P.		Rs.	As.	P.		Rs.	As.	P.		Rs.	As.	P.	
1st	Or Northern Division, Pubnah, ..	8712	0	0	5	8875	12	10	7	817	2	3	20	3793	0	0	105
2nd	Or Southern Division, Nuddeah, ..	8712	0	0	4	8350	0	0	12	554	5	4	30	4757	11	9	144
3rd	Or Eastern Division, Mymensing, ..	8615	9	1	6	11134	4	4	11	475	13	7	24	4262	1	8	124
4th	Or Western Division, Moorshedabad,	8712	0	0		10448	6	2	7	338	14	6	24	5263	10	11	140
5th	Assam,	5856	0	0	2	3475	15	0	4	192	0	0	11	1828	7	8	66
6th	Arracan,	4400	0	0	1	2475	0	0		232	0	0	14	1264	9	7	51
	Total,	45007	9	1		44759	6	4		2110	3	8		21169	9	7	25

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TABLE F.

the under-mentioned Surveys respectively for Season 1853-1854.

era.	Superintending Officer's and Contingent Allowance.	Assistants.	Native Establishment, inclusive of Mehalwaree Calculations.	Guards.	Total.
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
.....	0 0 0	1624 3 2	0 0 0	132 13 9	1757 0 11
.....	0 0 0	3206 0 0	0 0 0	0 0 0	3206 0 0
.....	96 6 11	421 11 8	334 5 0	0 0 0	902 7 7
tion,	0 0 0	1551 9 10	0 0 0	111 1 6	1662 11 4
.....	0 0 0	1724 1 0	699 8 4	0 0 0	2423 9 4
.....	1456 0 0	225 0 0	5567 14 8	56 0 0	7304 14 8
.....	1552 6 11	8752 9 8	6651 12 0	299 15 3	17256 11 10
elow,	0 0 0	0 0 0	2421 6 3	104 5 4	2525 11 7
ble E.,	1552 6 11	8752 9 8	4230 5 9	195 9 11	14731 0 3
		Excess for Superintending Officers.	Excess for Assistants.	Excess for Native Establishment.	Excess for Guards.
	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.
.....	0 0 0	0 0 0	0 0 0	313 13 9	0 0 0
.....	0 0 0	0 0 0	0 0 0	1911 13 5	104 5 4
.....	0 0 0	0 0 0	0 0 0	25 13 7	0 0 0
.....	0 0 0	0 0 0	0 0 0	169 13 6	0 0 0
.....	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
.....	0 0 0	0 0 0	0 0 0	0 0 0	0 0 0
Total,.....	0 0 0	0 0 0	0 0 0	2421 6 3	104 5 4

(Signed)

H. L. THULLIER,

Deputy Surveyor General.