

REPORT 2413

ON THE

SURVEY OPERATIONS

IN THE

LOWER PROVINCES,

FROM

1ST OCTOBER 1857 TO 30TH SEPTEMBER 1858.

With a General Reply - &c.

CALCUTTA :

JOHN GRAY, GENERAL PRINTING DEPARTMENT,
5½, COUNCIL HOUSE STREET.

1859.

FROM E. H. LUSHINGTON, Esq.,

Offg. Secretary to the Government of Bengal,

TO THE SECRETARY TO THE BOARD OF REVENUE.

Dated Head Quarters, Hazareebaugh, the 13th January 1860.

Revenue.

SIR,

I AM directed to acknowledge the receipt of your letter No. 360, dated 29th July last, submitting a Report on the Survey operations of the year ending 30th September 1858.

2. The Report, though bearing the above date, did not reach the Lieutenant-Governor until about the middle of the following month, thereby making a lapse of nearly one year, before the Lieutenant-Governor had it in his power to review the proceedings to which it referred. After such delay, which the Lieutenant-Governor earnestly trusts will not be repeated, it would be a waste of words to comment in detail on proceedings which have been so long settled, or to pass in review the manner in which the Officers individually conducted the duties entrusted to them, the majority of whom are no longer attached to this particular Department.

3. The Lieutenant-Governor is unable to understand clearly from the Report now before him in what particular Districts in Lower Bengal the Survey has been finally completed, and the Registers written up and made over to the respective Collectorates to which they belong. The Board are requested to furnish exact information on this point. At present it would appear that at the close of the Survey year 1858, there was scarcely any District which had been demarcated within the last ten years, in which the work may be said to have been brought satisfactorily to a close. Some of the reasons assigned by the Superintendents for the non-completion of the Registers, such for instance as those given in paragraphs 58 to 61 are clearly the result of undue haste, carelessness, or incompetency on the part of the Officers concerned. The blame of the delay referred to in the concluding part of paragraph 60 should, in the Lieutenant-Governor's opinion, rest on the Officer under whose orders the Omlahs conducted their duties, and who as head of the Office, was responsible that his subordinates were not fruitlessly expending their time under a misapprehension of the manner in which their particular duties were to be performed.

4. The Lieutenant-Governor trusts that as the sources of the errors and delays in the preparation of the Registers are now understood, due care will be taken by the Superintendents of Survey to avoid a repetition of such mistakes in the Districts which may yet remain to be demarcated. This caution should be particularly observed by the Superintendent appointed to conduct the proceedings in Sylhet, where the petty Mehals are so numerous, and so intermixed, that inextricable confusion must ensue unless the work is carried out from its early commencement with great prudence and intelligence.

5. As recommended by the Deputy Surveyor General and Board of Revenue, the Lieutenant-Governor is pleased to authorize the scale of Hill Batta as per margin, for the Arracan Survey Establishment, the additional expenditure being defrayed from the fixed annual grant.

	Rs.	
Revenue Surveyor ...	60	per month.
Assistants and Sub-Assistants of the 1st Class ...	40	" "
Junior Sub-Assistants ...	30	" "
Native Surveyors 1st Class drawing Rupees 20 and upwards ...	8	" "
Ditto 2nd Class below Rupees 20 ...	5	" "
Tindals ...	3	" "
Classics ...	2	" "

6. The attention of the Supreme Government will again be requested to the necessity of appointing a Covenanted Assistant Surveyor to the 2nd Division with another for the 4th Division.

7. Referring to paragraph 50 of the Board's Report, I am directed to state that the subject of the adjustment of the Civil and Criminal jurisdictions will be disposed of separately, in communication with the Deputy Surveyor General.

I have the honor to be,

SIR,

Your most obedient Servant,

Offg. Secretary to the Government of Bengal.

No. 49.

PARAGRAPH 5 forwarded to the Officiating Civil Auditor for his information and guidance.

HEAD QUARTERS,

HAZAREEBAUGH,

The 13th January 1860.

Offg. Secretary to the Government of Bengal.

FROM

E. T. TREVOR, ESQUIRE,
Secretary to the Board of Revenue, Lower Provinces,

TO

THE SECRETARY TO THE GOVERNMENT OF BENGAL,
REVENUE DEPARTMENT.

Dated Fort William, the 29th July 1859.

LAND REVENUE.

W. Dampier, }
and } Esquires,
W. J. Allen, }

SIR,

I AM directed by the Board of Revenue to submit the

Statement No. 1.—Work performed in the four Bengal Survey Superintendencies.
Statement No. 2.—Condition of the Demarcation Operations including Khusréh.
Statement No. 3.—Condition of the Survey Registers.
Statement No. 4.—Expenses incurred on account of the four Bengal Survey Superintendencies.
Letter from Deputy Surveyor General, dated 2nd April last, No. 59, with Annual Report and Tables A, B, E, F, and H.
Statement supplementary to Deputy Surveyor General's Statement H.
Letter from Offg. Superintendent of Survey, 1st Division, dated 17th February last, No. 87.
Letter from Superintendent of Survey, 3rd Division, dated 9th November last, No. 35.
Letter from Superintendent of Survey, 4th Division, dated 15th December last, No. 433.
Letter from Offg. Collector of Burdwan, dated 21st Idem, No. 57.
Letter from Offg. Collector of Mymensing, dated 6th November last, No. 6, with memorandum.
Letter from Revenue Surveyor of Arracan, dated 28th Ultimo, No. 34.

Statements
and Re-
ports noted
on the mar-
gin, describ-
ing the Sur-
vey Opera-
tions of the
year ending

the 30th September last.

2. The operations of the 1st Division were resumed in the District of Rungpore early in December 1857, under the guidance of Mr. Pemberton, aided by 6 European Assistants and 31 Native Surveyors, who kept the field till the end of May following. The tract of country taken up subtends both banks of the River Teesta, having Cooch Behar on the North, with Bograh and Dinagapore on the South. It comprises 1,512½ square miles, including 20 miles of River circuits, effected at a cost (exclusive of Rupees 883-2-7 on account of mehalwar calculations, and Rupees 1,193-2-5 incurred in the keep and feed of elephants) of Rupees 33,796-3-0, upon which sum the average cost per square mile of the surveyed area falls at the rate of Rupees 22-5-6, or Rupees 1-9-2 less than in the previous season ; a result which the Deputy Surveyor General pronounces to be very satisfactory, and creditable to Mr. Pemberton's persevering efforts in the midst of many drawbacks and difficulties.

3. In the execution of the Map work, a decided improvement was perceptible, and the Records are stated to have been well lodged in the Deputy Surveyor General's office.

4. The remaining portion of the Rungpore District was expected to occupy about 4 months of the current season, after which the topographical survey of Cooch Behar was to be proceeded with. Favourable testimony is borne to the extent of the demarcations in advance of the Professional Department, which reflects credit on the labours of the Civil Superintendent and his subordinates, but on the Cooch Behar Frontier two boundary disputes were still in appeal before the Governor General's Agent North-East Frontier, which, it was feared, might necessitate subsequent alteration of the maps. These are doubtless, as Major Thuillier remarks, exceptional cases, and an occasional correction of a map cannot, the Board think, be considered a very serious inconvenience. On the general question of the nature of the boundary disputes on the Cooch Behar Frontier, and the remedy suggested for their disposal, I was directed to address the Government in a communication, dated the 1st Instant, No. 266. For the present, it seems only necessary to state that the Board have communicated with Colonel Jenkins since the receipt of Major Thuillier's observations, and the reply of that Officer reports the final settlement of the disputed boundaries in his office.

5. The non-professional operations were under the direction of Mr. Morris during the entire field season, at the close of which, on his transfer to the Demarcations, &c. Pubna District, he was succeeded by the present Superintendent, Mr. W. Waterfield. The services of the Assistant, Mr. Money, were not available till the end of May, when the field season had terminated, but three Deputy Collectors, Mr. Ryland, and Baboos Issenchunder Dutt and Mohendernauth Bose, were attached to the Division the whole year. The fourth, Baboo Hurrochunder Ghose, left in the middle of March, and was succeeded early in May by Mr. W. Davey, formerly employed in the professional branch of the service.

6. Mr. Ryland took the field in Rungpore, where he was engaged with 20 men in completing the work of that District. Baboo Mohendernauth Bose with 40 Ameens transferred with him from the late 2nd Division, prosecuted the demarcations in the Dinagepore District which had been commenced in the previous season; while to the North-West of his circuit, Baboo Hurrochunder Ghose and Mr. Davey successively proceeded with the demarcation of a large tract of country from the River Atrai to the frontiers of Purneah and Maldah. The area demarcated in the course of the season is calculated at 1,600 square miles.

7. Three hundred and sixty boundary disputes were disposed of out of a file of 479 cases, leaving 119 pending. Of 144 appeals to the Superintendent, the whole were decided within the year, the orders being reversed or modified in 8 cases, and upheld in 84; the remainder having been either remanded for further investigation or struck off the file. Good progress had been made in reducing the files of *izad* and *adum nishan* and miscellaneous cases, as is apparent from Statement No. 1, but besides the numbers there shown, there were 1,815 references of the nature of *adum nishan* cases from the 4th Division, of which 981 were disposed of before the close of the year.

8. The registry work of Rajshahee, Pubna and Bograh Zillahs continued to occupy the time and attention of Baboo Issenchunder Dutt, assisted by an establishment of 20 Ameens for local enquiries and measurements. The Registers of 27 new Pergunnahs had been finished, and 25 of these made over to the Collector. Mr. Waterfield says he

hoped to be able to announce the completion of the Rajshahee Registers, but the great sickness which prevailed amongst his establishment at Dinagepore retarded the work. The Pubna Registers, he says, cannot be closed till the adjoining Pergunnahs of Jessore and Furreedpore are also cleared off. The Bograh Registers can scarcely be called an arrear in the same sense as those of Rajshahee and Pubna. This Zillah was formed of Pergunnahs detached from three different Districts; the portion taken from Rajshahee was demarcated under the old defective system which entails so many revisions before the results can be registered; that from Rungpore was demarcated on the new plan; and that from Dinagepore has apparently from oversight escaped both demarcation and survey altogether, and must be taken up with the last mentioned District. The Rungpore Registers have been written up as far as the Records made over by the Surveyor permitted.

9. The number of cases instituted in the course of writing up the Registers from the cause mentioned in para. 8 of the Board's Report for 1855-56, is as follows:—

	<i>Instituted.</i>	<i>Disposed of.</i>	<i>Remaining.</i>
Rajshahee... ..	71	71	0
Pubna... ..	2,015	1,191	824
Bograh.....	200	196	4

to which must be added 891 cases of arrears belonging to Rungpore, the nature of which is not explained, of which 817 had been disposed of, and 74 remained on the file.

10. The expense incurred in this branch of the operations reached the sum of Rupees 76,368-5-3½, which gives the average of Rupees 47-11-8 per square mile on the area demarcated, being Rupees 19-1-8 more than in the past season, owing to the greater number and the smaller size of the hulkas or circuits demarcated.

11. The demarcations are in progress in Dinagepore during the current season.

12. Small progress has been made in the 2nd Division. Captain Row, Major Smyth's successor, with 4 European and 35 Native Surveyors took the field in December in that part of the Dinagepore District which adjoins Maldah and Rajshahee. The area surveyed did not exceed 532 square miles, which was accomplished at a cost of Rupees 30,765-6-8, exclusive of Rupees 460 expended on mehalwar calculations, producing the high average rate of Rupees 57-12-4 per square mile, or Rupees 24-15-9 above that of the previous season. A reference to the remarks in para. 17 of the Board's last Report will show that their anticipations of a smaller out-turn than usual being secured, have been realized. The means and opportunity, Major Thuillier observes, were both defective this season. Major Smyth, who from long experience, was well acquainted with every branch of the service and the capabilities of the working establishment under him, had left the Division, and his successor Captain Row being very weak in health was wanting in the energy and powers of supervision which are essential to the success of duties which especially require to be vigorously and watchfully worked out. In addition to this, a new and distant field had to be entered upon, and great reluctance was manifested on the part of the establishment to cross over into so unhealthy a District as Dinagepore. This circumstance, with some transfers of European Officers to other surveys, necessitated a partial re-organization of the field force. These causes

combined to produce the small result which the Report exhibits. It is unfortunate, the Board observe, that it should have been necessary at all to place so important a department in charge of an Officer in Captain Row's bad state of health. With all the other attendant drawbacks, an active Superintendent would, doubtless, have secured more satisfactory results.

13. Major Thuillier remarks in his 77th para. that the site of commencement of the demarcations in Dinagepore was not well selected, and he takes occasion from this circumstance to point out the expediency of communicating with him when demarcations are to be undertaken in a new locality. On this subject the Board have only to observe, that they have always understood that in determining the point at which demarcations should commence in a new District, the Superintendent acts in concert with the professional Surveyor, who has, therefore, an opportunity of communicating with his immediate superior on any point in which the Superintendent's proposed proceedings might appear to him to be susceptible of improvement. In the present instance, Major Smyth, a professional Officer, was at the head of *both* branches, and directed the movements of the demarcation party detached to Dinagepore. The Board are not aware why he did not communicate his plans to Major Thuillier, and the mistake, if there was any, in selecting the point of commencement of the demarcations was his own. It seems to them, however, that a Superintendent of Survey, as the Officer who is solely responsible for the proper conduct of the operations in the field, should not be hampered with any such obligations. He always has the power to consult, and generally does consult the Revenue Surveyor, who is associated with him in the work. But, if references are always to be made to the Deputy Surveyor General in Calcutta, the Civil Officer at the head of the Department can hardly be called a *Superintendent* of Survey.

14. The Maps and Records of this Division were left in a very imperfect and unfinished state in the hurry of Captain Row's departure for Europe under medical certificate. Such portion of them, however, as has been lodged in the Deputy Surveyor General's office, is said to have been well executed.

15. In the present season, the survey of Dinagepore is being prosecuted by Captain J. L. Sherwill, who is engaged in ascertaining and working up the office arrears left by Captain Row.

16. On the departure of Major Smyth, the demarcation establishment under his control was abolished as a separate branch, and a moiety of *Demarcations, &c.* the establishment transferred to the 1st Division, the Superintendent of which undertook, with the increased agency, to provide work for two professional parties in Dinagepore. The demarcation operations of the season of this Division, therefore, became merged into those of the 1st Division already noticed.

17. The registry work of the Districts formerly surveyed by the 2nd Division was superintended by the Collector of Burdwan. The number of boundary disputes and other cases to which the registry work of Burdwan, Bancoorah and Nuddea gave rise, is shown in Statement No. 1. Of 72 appeals disposed of, the orders of the Deputy Collectors were upheld in 50, and modified in 12 cases, the remaining 10 cases being restored to the file for further investigation.

18. In regard to the work of compilation, very little progress, the Board regret to observe, has been made. Of the 4 Pergunnahs, into which Bancoorah is sub-divided, the Mouzahwar Registers, according to Statement No. 3, were only half finished, and the Mehalwar Registers had not even advanced to that stage; but the following explanations of the Collector, Mr. Hobhouse, serve to redeem, in some measure, the unsatisfactory aspect of things in this department. "Bengalee and English fair copies of Mouzahwar Registers of the Bancoorah District have been prepared. It may not be out of place to mention that some few alterations in these Registers will unavoidably have to be made on the completion of the *towjee nikas* of the District, but these, I trust, will easily be effected without injury to the fair copies. The rough Mehalwar Register of Bancoorah District has also since been prepared, but the complete accuracy of this also depends on the completion of the documents above spoken of. The fair copy of the Mehalwar Register of Bancoorah District I have decided not to commence upon until the *towjee nikas* is completed, as I am told that numerous alterations with respect to Mehals and Mouzahs will have to be made, and I have hence thought it would involve double labor to take up the above work now." The completion of the work by next September is anticipated, though the missing Mehals to be enquired into are said to be numerous. In regard to the Burdwan registry work, nothing, it appears, could be done in the absence of the professional village plan volumes, the first of which (apparently the only one forwarded) was received from Captain Row only in November last. The correction of the Nuddea Registers, (returned by the Collector for that purpose, after they had been made over to him as complete) is expected still to occupy "a lengthened period." The Board question much the utility of the plan of making over Registers to be finished by the Collector. The Collector is too busy with his other duties to give his personal attention to the subject, and being ignorant of survey details is too easily satisfied with the explanations of delay given by the Deputy Collector.

19. The expense incurred on account of the survey branch of the Burdwan Collector's office, in connection with the registry work, amounted to Rupees 5,666-0-8.

20. Mr. N. T. Davey who succeeded the late Mr. Wyatt in charge of the 3rd Division, with 6 European and 34 Native Surveyors, broke ground in the 3RD DIVISION. Professional. the Dacca District in the middle of December, remaining in the field till the end of May. During this interval the whole of the demarcated area of the previous season was surveyed. The field of operations lay to the South of Mymensing between the Dulluseree and Lukhya Rivers, and embraced an area of 1,219 square miles containing 2,118 villages. The cost, exclusive of Rupees 830-1-6 for mehalwar calculations, and of Rupees 1,157-6-0 for the feed of elephants, amounted to Rupees 32,828-8-3, producing an average rate of Rupees 26-14-9 per square mile, or Rupees 3-10-11 beyond that of the previous season. This excess is attributed to the large hilly tract in the work of that season, which by increasing the total area, served to keep down the average of that year. The results when viewed in connection with the circumstance that a new District had to be entered upon, are regarded by the Deputy Surveyor General as satisfactory and creditable to Mr. Davey's energy and good management.

21. The Maps are said to be fairly executed, and an improvement on those of the former season, though still falling short in this respect of the style of execution attained in other Divisions. Some maps had not been lodged in the Deputy Surveyor General's office pending the receipt of adjusted village boundaries.

22. The survey of the remaining portion of Dacca, estimated to contain 2,000 square miles, is expected to occupy two seasons.

23. In the 110th and following paras. Major Thuillier dwells upon the very great inconvenience and embarrassment to the Revenue Surveyor resulting from the practice of making corrections of maps long after the completion of the survey. The necessity for these corrections arises principally from three causes. *First*.—The incompleteness of the proceedings of the earlier Superintendents, when the District of Mymensing was commenced upon. These defects, when brought to light, necessitated correction, and corresponding alteration in the village plans and maps. So far as the practice complained of arises from this cause, there is no remedy, but there can be very few cases now of alterations required for the correction of *old* mistakes. *Secondly*.—The extremely defective lists of Mehals and Mouzahs supplied by the Collector. This applies especially to Dacca, the Records of which District would appear to be in a lamentably defective condition. The Superintendent has only lately brought to notice the fact that Mouzahs on the Collector's Towjee, actually paying revenue to Government, have been omitted from the lists supplied by the Collector. The extent to which this evil operates, and the remedies which may ultimately be necessary, are points still under consideration. *Thirdly*.—The inevitable delays arising from the system of appeals in boundary dispute cases. Not only are these cases numerous beyond all precedent, but the appeals from the proceedings of the Deputy Collectors are numerous in proportion. The Board are quite aware of the extensive intermixture of lands which exists in the District of Dacca. On no other ground could they account for the extreme prevalence of boundary disputes in the 3rd Division of Survey, and under the conviction that the increasing obstruction to all Survey operations is raised beyond all other causes of delay, by the frequency of such disputes, where any relaxation of the strictest supervision over subordinate officers is permitted, the Board have called the attention of the present Superintendent of the 3rd Division to the subject. The briefest consideration of the process by which, under the present law, a door is open to appeal in the most trivial case of difference, will show the serious interruption to which the survey is subjected by the system. Of 742 appeals disposed of by the Superintendent since November last, the greater part relate to the Revenue Surveyor's present and previous season's work, and many of these cases are sure to be again appealed to the Commissioner. Appeals are taken by the Superintendent, if presented within a month from the disposal of the case by the subordinate Officer; and from the Superintendent's orders three months are allowed by law for appeal to the Commissioner. Moreover, it has been the practice to allow a second appeal to the Board after a further period of three months; so that the smallest space of time, within which a final decision can be come to is 7 or 8 months, and should the decision be one requiring a re-investigation in the field, it is obviously beyond the power of the Superintendent to secure the professional maps against alteration for an indefinite period. For a state of things which has the sanction of law there is no remedy but a change of the law, but before proceeding to the extreme step of recommending such a measure, the Board having the question now before them for fuller consideration, have proposed the adoption of palliative measures with a view to expedite the disposal of appeals. With this object they have authorized the Commissioner to give precedence to survey appeals by disposing of the cases without reference to their number on his file; and so far as the appeal to them is concerned, they have under consideration the issue of a notice to the effect that appeals will not be heard unless certified to involve some disputed point of law or practice.

24. The Superintendent, Mr. Muspratt, was aided by three Deputy Collectors during the year—the fourth Officer of that class, Baboo Frankissen Roy, *Demarcations, &c.* having been transferred in February 1858 to do duty under the Collector of Mymensing, who had to bring up the registry work of that District, Mr. Muspratt with 1 Peshkar and 7 Ameen personally superintended the demarcation of a small tract containing 446 villages with an area of 72 square miles, situated between the Dulluseree and Booreegunga Rivers, of which 418 villages, containing 7,445 chucks, were completed before the recess. Under his directions also, the Ameen, deputed in June to measure the City of Dacca, completed 789 chucks and 579 khusreh dāghs, or about half the town by the end of the survey year. To Baboo Brijsoonder Mitter, aided by 3 Peshkars and 30 Ameen, was assigned the tract lying between the Dulluseree, Megna and Kirtinassa Rivers, estimated to contain 338 square miles with 1,399 villages, of which 1,286 villages were completed in the season and found to contain 29,085 chucks. Baboo Joychunder Mojoomdar with 4 Peshkars and 40 Ameen was employed in demarcating a circuit lying between the Dulluseree and Pudda Rivers, bounded on the East by the Hilsamaree and Toolseekhalee streams. This circuit contained 2,126 villages with 21,740 chucks, and comprised an area of 560 square miles; 137 of these villages were subsequently transferred to Baboo Satkowry Roy, who, with 2 Peshkars and 20 Ameen, took up the tract of country lying between the circuits of the other two Deputy Collectors, containing 662 villages with an area of 130 square miles. This, with 60 square miles comprised in the 137 transferred villages, gave a total area of 190 square miles, containing 15,400 chucks, effected by this Deputy Collector.

25. The boundary dispute cases amounted to the enormous number of 6,020. The only explanation given by Mr. Muspratt is, that in Pergunnah Bickrampore the lands are so interlaced, and are of such value, that the area in dispute was frequently one, two or three cottahs. Of these cases, 5,212 were disposed of during the year, namely, 2,689 on their merits, and 947 by arbitration or compromise; 1,576 being struck off for non-payment of Ameen's fees. As these last mentioned cases served no purpose but to swell the file, Mr. Muspratt has directed that the Ameen's fees should be paid before the case is brought on the file. Of 806 appeals disposed of, 662 related to boundary disputes, and of these in 387 the orders were upheld; in 46 they were reversed or modified; and 36 cases were returned for further investigation, 193 being struck off. The remaining 144 appeals related to miscellaneous cases, of which the orders in 99 cases were upheld, in 12 reversed or modified, 6 being returned for re-investigation, and 24 struck off. Much of the work in this Division under the head of *izad* and *adum nishan* cases, as well as miscellaneous cases, is due to the imperfect character of the Collectorate lists.

26. Nothing could be done in regard to the compilation of the Survey Registers of the Dacca District beyond the preparatory work, or *mehal milanee*, the difficulties of which, in the imperfect state of the Collectorate Records, must be very great and trying. Mr. Muspratt reports that these enquiries have been completed in regard to 2,533 Mehals of that District. So great, however, is the intermixture of Pergunnahs in the Zillah,

that the registry cannot well be fairly commenced till the entire District is surveyed. In the 108 Pergunnahs and 63 Tuppehs which have come under demarcation during the past two years, the lands of seven other Districts besides Dacca have been met with, a fact which shows the interlacing of lands to be beyond all conception intricate and perplexing.

27. The registry work of Mymensing has been in the hands of the Collector of that District since February 1858. From the memorandum appended to Mr. Campbell's letter of the 6th November last, it will be seen at what stage of progress the compilation of the Registers of different Pergunnahs has arrived. The large number of *izad* and *adum nishan* cases shown in Statement No. 1, arose in the course of the registry work. The cases are chiefly of the latter description, and though formidable on paper, they are in reality little more than nominal as regards the labor involved in disposing of them, a reference to the Zemindars or their agents being all that is required for the purpose.

28. The expense incurred during the year aggregated Rupees 65,785-10-7, upon which the demarcated area of 1,100 square miles falls at the rate of Rupees 59-12-1 per square mile, being Rupees 18-5-0 more than in the previous season. This is ascribed to the greater intermixture of property met with during the operations of the year under review.

29. The demarcations this season will comprise the remaining portion of the Dacca District.

30. Captain Gastrell with 6 European and 33 Native Surveyors left his head-quarters at Berhampore towards the end of December, to take up the 4TH DIVISION. *Professional.* survey of the Southern portion of Jessore, with the adjoining Sunderbuns lots. The earlier commencement of operations was deemed inadvisable owing to the swampy nature of the country. The Survey embraced all the Southern Pergunnahs between the Cobaduck River on the West, and the Mudhomuttee and Pangoochee on the East, and extended to the great Sunderbuns jungle on the South, including numerous grants and allotments. A portion of the Backergunge District to the West of the Balessur River was likewise commenced upon, but about 100 square miles of Jessore, forming the South-East corner of the District, could not be taken up, and was left for the current season. By the beginning of June, an area of 1,048 square miles, containing 1,313 villages, was accomplished at a cost (exclusive of Rupees 644-8-3 expended on mehalwar calculations, and Rupees 1,189 on the feed of elephants and other contingencies) of Rupees 35,366-10-9, giving an average rate of Rupees 33-11-10 per square mile, or Rupees 11-10-9 more than in the previous season, owing to the greater intricacy of the work, which lay amidst swamps and endless ramifications of tidal creeks.

31. In his 140th para. the Deputy Surveyor General proposes to substitute a new boundary between Jessore and the Sunderbuns, in lieu of that laid down by Captain Hodges from the Heeragoug to the Bhuddur River. On this proposition the Board have only to observe, that Regulation III. of 1828 has fixed Captain Hodges' line as the boundary of the Sunderbuns.

32. The manner in which the Map work of this Division has been executed, is specially commended by the Deputy Surveyor General.

33. The plan proposed for the current season is that the survey party after completing the small remaining portion of Jessore, should take up Furreedpore south of the Ganges, where a large field has been prepared for it.

34. Baboo Tarucknath Ghose with 4 Peshkars and 36 Ameens commenced the season with the demarcation of a portion of the Backergunge District to the West of the Balessur River, after which he was partly engaged in enquiries regarding untraced villages of Jessore Pergunnahs, and partly in demarcating the circuit of Mr. Assistant Waterfield in the Furreedpore District, on that Officer's transfer to the charge of the 1st Division. Moulvee Ahsan Ahmed, with an establishment of the same strength, and Mr. Assistant Waterfield with 2 Peshkars and 18 Ameens took up the southern portion of the Furreedpore District, where, from the swampy character of the country, limited progress only could be made. The area demarcated was about 850 square miles, comprised in 1,203 villages, which with 470 square miles unsurveyed of the previous season's demarcations, formed a sufficiently large field for the Revenue Surveyor.

35. The boundary dispute cases and cases relating to excess and missing lands in this Division were not numerous, and fair progress had been made in disposing of them as well as of the miscellaneous cases. Of 259 appeals decided, the final orders in 64 were upheld, and in 9 reversed or modified; 27 cases were sent back for re-investigation, and 159 struck off.

36. Nine new Registers of Moorshedabad had been forwarded to the Collector, leaving 13 to complete that District. In these, a few local enquiries were still necessary. The Registers of Jessore had not been commenced upon. Some few *adum nishan* cases were under investigation, and it was hoped that the compilation would be proceeded with during the recess. Altogether, the work in this District has been found to be more free from embarrassing circumstances than any other that has come under the operations of this Division, and it is to be anticipated that the registry work will be found beset with fewer difficulties than elsewhere.

37. The expense incurred aggregated Rupees 66,798-11-0, on which the small area demarcated produces the unusually high average of Rs. 78-9-4 per square mile. This is attributed to the difficult nature of the country traversed, consisting of swamps and low lands intersected with numerous tidal creeks.

38. The current season's demarcations will embrace the remaining portion of Furreedpore south of the Ganges, after which the Division will proceed to the District of Backergunge.

39. In the Arracan Division, Mr. O'Donel, with 4 Assistants and 29 Native Surveyors, resumed operations in the middle of November in the Akyab District, remaining out till the end of April, during which interval, 1,452 $\frac{2}{3}$ square miles were effected, including 39 square miles of River circuits. Only 88 $\frac{1}{2}$ square miles of this area consisted of cultivated land, the rest being hill and

jungle. The tract surveyed lay to the North of the work of the previous season as far as Sugar Loaf Hill adjoining the Chittagong District, and to the East of the Koladyne River as far as the Lemroo River. The former portion is mountainous, and the latter low land. The expense incurred was Rupees 27,471-3-9, yielding an average rate of Rupees 18-14-7 per square mile, or Rupees 5-5-3 less than in the previous season.

40. The Map work is said to be executed in Mr. O'Donel's usual excellent style, and to be all that can be desired.

41. The demarcations in this Division are under the superintendence of the Surveyor who conducts them simultaneously with the professional operations. During the year 24 keokships or circles were demarcated, together with portions of 9 others and 5 grants. Of the entire area demarcated and surveyed, 428 square miles consist of low land, near the old town of Arracan, and 1024 square miles of difficult hilly ground bordering for 74 miles on the Chittagong District. About 60 miles of the frontier still remain to be surveyed. The expense of this branch during the year amounted to Rupees 6,251-6-4.

42. The Registers are stated by Mr. O'Donel to be brought up and lodged in the Principal Assistant Commissioner's office; 152 of these Registers were completed during the year.

43. With reference to the Deputy Surveyor General's 175th para. the Board in their letter of the 22nd March last, No. 114, brought to the notice of Government, a plan proposed by Mr. O'Donel for conciliating the border tribes by small presents to their Chiefs. The communication referred to explained in detail the proposition submitted by the Revenue Surveyor to the Commissioner of Arracan, and the reasons which rendered some such arrangement necessary, and the Board desire only on the present occasion to state that they concur fully in the expediency of securing the good will and co-operation of the wild races occupying those hills in the prosecution of the survey operations.

44. The Board desire further to give their support to the proposition in paras. 177 to 181 of the Deputy Surveyor General's Report. It is true that some of the European Assistants (not including the Revenue Surveyor himself) already receive a special allowance of Rupees 50 a month while employed in Arracan; but this allowance is said to be common to other Officers in that Province, and is intended to compensate the recipients for the dearness of house-room and provisions in a distant part of the Presidency. The claims of the Surveyors in the present instance are based on special considerations, namely, the difficulty of traversing a hilly and jungly country, and the necessity of providing a commissariat through all the stages of their progress. Hill batta was allowed to the party who proceeded to the Garrow Hills opposite Mymensing, and is said to be allowed also to the Assistants attached to the Great Trigonometrical Survey. The scale given in para. 180 appears to be moderate, and as the expense is to be met out of the existing annual grant, the Board recommend that the allowance be sanctioned.

45. The following exhibits the work done and the expense incurred in both branches in the past two years. The cost of mehalwar calculations is included in the expences of the professional branch :—

DIVISIONS.	Years.	PROFESSIONAL.			NON-PROFESSIONAL.		
		Area in square mile.	Cost.	Rate per square mile.	Area in square mile.	Cost.	Rate per square mile.
1st ...	1856-57 ...	1480 $\frac{3}{4}$	Rs. 36,272	Rs. 24 7 10	2400	Rs. 68,665	Rs. 28 10 0
	1857-58 ...	1512 $\frac{1}{2}$	„ 34,679	„ 22 14 10	1600	„ 76,568	„ 47 11 8
	Difference ...	+ 31 $\frac{1}{4}$	— 1,593	— 1 9 0	— 800	+ 7,703	+ 19 1 8
2nd ...	1856-57 ...	1097 $\frac{1}{2}$	Rs. 37,099	Rs. 33 12 7	1000	Rs. 45,166	Rs. 34 3 5
	1857-58 ...	532 $\frac{1}{2}$	„ 31,225	„ 58 10 1	0	„ 5,666	„ 0 0 0
	Difference ...	— 565 $\frac{1}{2}$	— 5,874	+ 24 13 6	0	0	0 0 0
3rd ...	1856-57 ...	1491 $\frac{1}{4}$	Rs. 35,527	Rs. 23 13 1	1596	Rs. 6,6143	Rs. 41 7 1
	1857-58 ...	1219 $\frac{1}{2}$	„ 33,653	„ 27 9 7	1100	„ 65,785	„ 59 12 1
	Difference ...	— 271 $\frac{3}{4}$	— 1,869	+ 3 12 6	— 496	— 358	+ 13 5 0
4th ...	1856-57 ...	1668 $\frac{1}{2}$	Rs. 37,516	Rs. 22 7 8	1100	Rs. 67,549	Rs. 61 6 6
	1857-58 ...	1048 $\frac{1}{2}$	„ 36,011	„ 34 5 8	850	„ 66,798	„ 78 9 4
	Difference ...	— 620 $\frac{1}{2}$	— 1,505	+ 11 14 0	— 250	— 751	+ 17 2 10
5th ...	1856-57 ...	1237 $\frac{1}{2}$	Rs. 29,768	Rs. 24 3 10	0	Rs. 4,850	0 0 0
	1857-58 ...	1462 $\frac{1}{2}$	„ 27,471	„ 18 14 7	0	„ 6,251	0 0 0
	Difference ...	+ 225	— 2,297	— 5 5 3	0	+ 1,401	0 0 0

Explanations have already been given of the cause of the increased expense in the several Divisions where an increase is apparent. No fair comparison can be instituted in regard to the non-professional branch in the 2nd Division, where the expense incurred is on account of the registry work only. The Civil Superintendentship was abolished *pro tempore*, when Major Smyth assumed as an experiment the direction of both departments, one-half of the field establishment being discharged, and the other half draughted into the 1st Division.

46. Major Thuillier reports himself well satisfied with the manner in which the Revenue Surveyors have performed their duties, with the exception of Captain Row of the 2nd Division, whose failing health unfitted him for the arduous work which the survey entails. Captain Gastrell is especially commended. The Assistants are also well spoken of by their superiors, except Mr. Sub-Assistant Beatson, late of the 1st Division. Mr. Sub-Assistant W. Stevens of the 4th Division, though a promising Officer, is blamed for abandoning his post before the expiry of the term for which his services had been engaged. The promotions recommended in paras. 69, 95, 127 to 129, 153, 154, 156 and 186 have been sanctioned by the Board.

47. The Board continue to be perfectly satisfied with Major Thuillier's supervision of the department, and his efficient performance of the onerous duties entrusted to him, Major Thuillier speaks in praise of the services rendered by Messrs. Hoppner and Graham attached to his own office.

48. The Board desire also to record their full approval of the manner in which Messrs. Watson and Morris have superintended their respective charges. Of Mr. Mus-

pratt their opinion has been expressed in former Reports, and as he has since been transferred to another branch of the service, no further remark appears necessary. The Uncovenanted Deputy Collectors are in general favorably noticed by their respective Superintendents. The more deserving of these Officers have already been brought to the notice of Government in their last Land Revenue Administration Report, along with other meritorious Officers belonging to the general service.

49. The Board take this opportunity to draw His Honor's attention to paras. 10 and 91 of the Deputy Surveyor General's Report, wherein that Officer insists on the expediency, with a view to ensuring the efficiency of the professional branch, of attaching Covenanted Assistants to the two Divisions, namely the 2nd and 4th, which are under the control of Covenanted Officers. The opportunity seems favorable for bringing the subject again to the notice of His Honor the Lieutenant-Governor. In the want of employment for many of the subordinate Officers attached to the Army, it may not be found difficult to secure the services of two for the purpose adverted to in the Deputy Surveyor's Report. These Assistants would thus be prepared by practical acquaintance with the working of the survey, under the guidance and instruction of experienced Officers, to take charge of Divisions on the occurrence of vacancies. The expediency of appointing Assistants to the Superintendents of Survey has been fully recognized, and is generally acted upon ; and it is, if possible, still more needful that a branch purely professional should not be exposed to the risk of being inefficiently controlled by the want of Assistants competent to undertake the duties on any sudden emergency. The Board therefore trust the earliest opportunity will be taken of making the appointments in question.

50. Adverting to paras. 28 to 32 of the Report, the Board would merely remark that as the correspondence on the subject to which Major Thuillier alludes has apparently taken place with Government direct, they leave the question to be dealt with as His Honor may deem fit.

51. Paragraphs 33 to 38 of the Report are intended to furnish a reply to the letter of Government, dated the 10th November last, No. 2407, forwarding an extract from a Despatch of the late Court of Directors. The information contained in these paragraphs meets the requirements of that Despatch, except as regards the cost of the non-professional branch, for which the Board have drawn up a Statement supplementary to Major Thuillier's Statement H. The accounts of the non-professional branch have never been kept in such a manner as to distinguish the expense incurred in the demarcation of one District from that incurred in another. The expenses on account of one superintendency or Division are capable of being distinguished from those of another Division, and those of one year from those of another ; and on this principle the supplementary Statement has been prepared. The Board deem it proper to remark in this place with reference to the disparaging observation in the concluding part of the Deputy Surveyor General's 34th para. that since the introduction of the Board's system of 1850, mehalwar details have been shown in the Superintendent's khusreh maps, from which they have been copied into the professional maps, till recently, when it has been considered expedient that the professional maps should exhibit only village boundaries, mehalwar particulars being confined to the non-professional records. The Board have had no reason to form any conclusion similar to that enunciated by the Deputy Surveyor General, that these records are " useless and incomprehensible for any purpose whatever."

52. From the supplementary Statement, which is brought down to the same point of time as the Deputy Surveyor General's Statement H, namely to 1856-57, it will be seen that the expenses incurred on account of the non-professional branch aggregated Rupees 23,55,728-8-11 at the close of that year; but as the area demarcated in that year remained for survey in the following year (1857-58) which does not come into the Deputy Surveyor General's account at all, it seems proper that the expense incurred in 1856-57 should be deducted from the above aggregate, leaving Rupees 21,05,517-12-2 as the outlay incurred in the demarcation of the Districts enumerated in the supplementary Statement. The area surveyed at the cost above stated aggregated 73,180 square miles, giving an average rate per square mile of Rupees 28-12-4, inclusive of the cost of khureh and mehalwar measurements, and of compilation of Survey Registers as far as this work has proceeded.

53. Combining the professional results with the non-professional, the total expense incurred in the survey of the area of 95,340 square miles, as per Deputy Surveyor General's Statement H, is as follows :—

Expense of professional branch ... Rupees	24,77,800-14-9
Khureh expense under former system, „	3,18,019-4-10
Expense of non-professional branch to 1855-56 „	21,05,517-12-2
Total ...	<u>49,01,337-15-9</u>

or nearly half a million sterling, the general average rate per square mile being Rupees 51-6-6, or about Rupees 8 for every 100 acres demarcated and surveyed.

54. Major Thuillier estimates the 9 Districts under survey and remaining for survey to contain 27,000 square miles, and the cost of the survey to be about 7 lacs. At the rate of Rupees 51-6-6 per square mile, the probable cost of both branches will be about 14 lacs. The Chota Nagpore Division or South West Frontier Agency is not comprised in this estimate. The extent of this tract is estimated at 37,000 square miles, which, as the survey will be almost wholly topographical, Major Thuillier thinks may be completed for about Rupees 10 a mile. The Arracan Province is also beside the estimate.

55. The Board desire to draw His Honor's attention to the proposition in para. 45 of the Deputy Surveyor General's Report relative to the gazetting of appointments, leave of absence, and promotions in the uncovenanted grades of the survey of which the salaries exceed Rupees 100. They are aware of no objection to the proposition except that promotions which merely carry with them an increase of salary without involving change of appointment are not gazetted in any department of the public service. They think a measure such as this is likely to give an impetus to the zeal and energy of Uncovenanted Officers, who now feel themselves overlooked, and their official position regarded as of little importance.

56. Before concluding the Board will advert to the Resolution of the late Lieutenant-Governor on their last Report, in which His Honor dwells with much force on the backward state of the registry work in all Divisions, and expresses a hope that the Board will take measures to remedy the evil, and correct any misapprehension that may prevail on the subject. Being desirous of meeting His Honor's wishes as far as possible,

the Board, on the receipt of that communication, called for a report from the several Superintendents of the causes which led to the arrears, and the means which should be adopted for expediting the work. The following is an analysis of the replies which the call has elicited.

57. Mr. Waterfield, the Superintendent of the 1st Division, who, under Mr. Watson's superintendence, had gained much experience in the preparation of Registers, ascribes the backward condition of the Registers of Rajshahee, Pubna and Bograh to those Districts having been demarcated under the old system, the imperfections of which are so great as to necessitate numerous local enquiries wherever the lands are much intermixed. This work has been under the exclusive charge of Baboo Issenchunder Dutt, whose progress he considers to be quite as great as could be expected. In Mr. Waterfield's opinion too, the necessity of providing field work for the professional establishments now raised to their full strength absorbs the Superintendent's attention to the prejudice of office work. He must give prior attention to that part of his duty on which the result of the professional survey immediately depends; otherwise a very costly establishment may remain idle for want of employment. Sickness too amongst the office establishment contributed its share during the past year in retarding the progress of the registry work.

58. Two principal causes of delay have operated in the 3rd Division, namely. *First*.—The scattered position of the lands of Pergunnahs, an evil which prevails to so great an extent in the District of Dacca that not a single Pergunnah can be said to be so far completed as to allow of the results being enregistered. *Secondly*.—Delay in the receipt of Mehalwar and Mouzahwar lists from the Collector, and their incorrect condition when received, rendering it necessary to reconcile the particulars given in the list with those obtained in the field, and even to identify the Mehals and Mouzahs.

59. In the 4th Division, the Deputy Collector in charge during the absence of the Superintendent mentions three causes as interfering with the speedy preparation of the Registers. *First*.—The unusual intermixture of property in Moorshedabad. *Secondly*.—Incorrect Collectory lists; and *Thirdly*.—Errors in area in the Chuck Registers.

60. The main cause of delay in regard to the Registers of the Districts in charge of the Collector of Burdwan, seems to be that the *towjee nikasee* instead of preceding, was made to follow the compilation. Various discrepancies were thus brought to light requiring local enquiries to be made in order to reconcile them. This is particularly the case with the Bancoorah Registers. The Burdwan Registers are delayed by the non-receipt of the village plan volumes from the professional Officer. The Nuddea Registers had actually been made over to the Collector as complete, but they were afterwards returned by that Officer for correction, some villages being found to have been entirely omitted, and mehals distributed to wrong Pergunnahs. These very serious defects are attributed partly to misapprehension on the part of the Amlah who prepared the Registers, and partly to the *towjee nikasee* Statement not having been previously prepared.

61. The Collector of Mymensing who is employed on the Registers of that District, mentions the following as the chief impediments. *First*.—The intermixture of the lands of Pergunnahs, which prevented the completion of the Registers till those of the adjoining Districts were completed. *Secondly*.—The distance of the head-quarters (Dacca) from

the scene of operations. *Thirdly*.—The new system, under which the Mymensing work was begun, was at first very imperfectly understood, and frequent changes of Superintendents took place, no less than three succeeding each other in as many years, and “no one, at first, from the Superintendent downwards, really knew what the requirements of the survey were, or at least how they ought to be met.” *Fourthly*.—Proper use was not made of the Records supplied by the Collector, and comparison with them was delayed till long after the maps were filed. *Fifthly*.—Incorrect lists supplied by the Collector.

62. The Superintendents generally concur in recommending that special provision should be made for the compilation of the Registers, by assigning the work either to the Assistant or to some experienced Deputy Collector. This, however, the Board observe, is no new proposition, for such a provision already exists in nearly all Divisions. Deputy Collector Baboo Issenchunder Dutt is specially employed for this purpose in the 1st Division; Baboo Doorgapersad Ghose is entrusted with the compilation at Burdwan of the Registers of the late 2nd Division, with the operations of which he has been familiar from the commencement of the survey of the Southern and Western portion of Bengal; Baboo Prankissen Roy, formerly attached to the 3rd Division, has the Mymensing Registers under his charge; and Mr. Waterfield had the work assigned to him of compiling the 4th Division Registers till his transfer last year to the charge of the 1st Division Superintendency.

63. In the opinion of the Board, there are two grand obstacles to the speedy compilation of the Registers, in comparison with which the rest sink into insignificance. One is incorrect Collectory lists. If these lists are not correct, the Superintendent is liable to be misled. It is only in so far as they are correct, that he is able properly to assign Mehals to Mouzahs and *vice versa*. The next great obstacle is the intermixture of lands. If the lands of one Pergunnah are commingled with those of another, the registry must of necessity be in abeyance till the survey of all the counterminous Pergunnahs is completed. If again some of the frontier Pergunnahs have lands in the adjoining Districts, the registry must wait still further till the survey of both Districts is completed. It may and generally does thus happen that while the demarcation and other work proceeds most satisfactorily, the registry work is of necessity left to be brought up last.

64. The Board fear that the state of things thus imperfectly described will be found to prevail more and more in the Districts now under survey and those awaiting survey in Eastern Bengal. The intermixture of lands in these parts of Bengal is found to be beyond all precedent embarrassing, and to present a striking contrast to the large undivided estates in the Behar Districts. They have little hope of the registry being able to keep pace with the other branches of work in the Department, and the only remedy which circumstances admit of is to make sufficient provision for the work being brought up as quickly as may be practicable after the conclusion of the Civil and professional surveys.

I have the honor to be,

SIR,

Your most obedient servant,

(Signed) E. T. TREVOR,

Work performed in the four Bengal Survey

258

1.	2.	3.	4.	5.	6.		
					Boundary disputes.		
DIVISION.	Districts in which operations are in progress.	Names of Officers.	Number of villages demarcated as shown in Statement No. 2, Column 5.	Number of completed thatbusts made over to the Revenue Surveyors.	On the file during the year.	Disposed of.	Pending.
1st DIVISION.	Rajshye ... Pubna ... Bogra ... Rungpore ... Dinagapore ...	Mr. G. G. Morris, Superintendent, to 31st May 1858....	708	2,231	37	37	0
		Mr. W. Waterfield, Officiating Superintendent, from 5th June to 30th September 1858 ...	0	0	0	0	0
		Mr. W. J. Money, Assistant, from 29th May to 30th September 1858	0	0	18	3	15
		Mr. W. H. Ryland, Deputy Collector	1,667	0	145	122	23
		Baboo Issenchunder Dutt, Deputy Collector ...	0	0	37	20	17
		Baboo Hurrochunder Ghose, Deputy Collector, to 15th March 1858 ...	781	0	33	64	
		Mr. W. Davey, Deputy Collector from 3rd May to 30th September 1858	908	0	95		
		Baboo Mohindronath Bose, Deputy Collector ...	580	0	50	50	0
		Total ...	4,634	2,231	479	360	119
		COLLECTOR OF BURDWAN.	Bancoorah ... Burdwan ... Nuddea ...	Mr. C. Hobhouse, Officiating Collector of Burdwan ...	0	0	0
Baboo Doorgapersaud Ghose, Deputy Collector ...	0			0	28	28	0
Total ...	0			0	28	28	0
3rd DIVISION.	Dacca ...			Mr. Muspratt, Superintendent ...	483	2,039	515	396	119
		Baboo Frankissen Roy, Deputy Collector to 29th February 1858 ...	0	0	0	0	0
		Baboo Brijsoonder Mitter, Deputy Collector ...	1,286	0	2,142	1,669	473
		Baboo Joychunder Mojoomdar, Deputy Collector ...	2,126	0	1,783	1,640	143
		Baboo Satcowry Roy, Deputy Collector ...	799	0	1,580	1,507	73
		Total ...	4,694	2,039	6,020	5,212	808
COLLECTOR OF MYMENSING.	Mymensing	Mr. C. H. Campbell, Offg. Collector, from April to 30th September 1858	0	0	0	0	0
		Baboo Frankissen Roy, Deputy Collector, from March to September 1858... ..	0	0	14	3	11
		Total ...	0	0	14	3	11
4th DIVISION.	Moorshedabad ... Jessore ... Furreedpore ...	Mr. J. Watson, Superintendent, to 9th September 1858 ...	0	216	0	0	0
		Mr. W. Waterfield, Assistant, to 22nd May 1858 ...	293	0	64	64	0
		Baboo Tarucknauth Ghose, Deputy Collector ...	271	851	107	107	0
		Moulvie Ahsan Ahmed, Deputy Collector ...	639	0	250	219	31
		Total ...	1,203	1,067	421	390	31

Superintendencies, from 1st October 1857 to 30th September 1858.

7.			8.			9.			10.		
Izad and Adumnish-an cases.			Duplicates of Maps.			Miscellaneous cases not embraced in foregoing columns.			Appeals from decisions of Deputy Collectors.		
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.
192	120	30	0	0	0	0	291	145	62	0	
0	42		0	0	0	615	170		144	82	0
234	216	18	2,304	2,263	21	52	20	32	0	0	0
277	235	22	588	588	0	400	333	67	0	0	0
277	262	15	189	189	0	905	719	186	0	0	0
48	10	4	3,075	113	140	261	146	51	0	0	0
34									64	0	0	0
465	178	287	314	314	0	474	411	63	0	0	0
1,493	1,117	376	6,470	6,309	161	2,707	2,163	544	144	144	0
0	0	0	17	17	0	292	288	4	116	72	44
1,408	1,401	7	124	124	0	406	393	13	0	0	0
1,408	1,401	7	141	141	0	698	681	17	116	72	44
352	291	61	115	115	0	531	457	74	1,053	806	247
13	13	0	0	0	0	8	8	0	0	0	0
2,602	2,560	33	585	585	0	1,206	973	233	0	0	0
2,155	1,649	506	208	208	0	2,939	2,884	55	0	0	0
593	174	419	49	49	0	365	341	24	0	0	0
5,715	4,696	1,019	957	957	0	5,040	4,663	386	1,053	806	247
224	222	2	0	0	0	21	3	18	12	4	8
6,133	4,917	1,216	0	0	0	69	47	22	0	0	0
6,357	5,139	1,218	0	0	0	90	50	40	12	4	8
39	30	0	0	0	0	999	965	34	318	259	59
12	12	0	0	0	0	121	121	0	0	0	0
223	220	3	719	719	0	1,903	1,460	443	0	0	0
332	285	47	935	935	0	1,354	1,028	326	0	0	0
606	550	50	1,634	1,634	0	4,377	3,574	803	318	259	59

CONDITION of the Demarcation operations including Khusreh in the four Bengal Survey Superintendencies, from 1st October 1857 to 30th September 1858.

1.	2.	3.	4.	5.				6.	7.
				By khusreh.	By internal plotting.	By internal demarcation.	Total.		
DIVISION.	Incomplete villages remaining from last season.	Villages taken up this year.	Total in hand during the year.	Completed externally and internally during the year.				Remaining in hand to be completed next year.	REMARKS.
1st Division ...	86	4,634	4,720	0	1,400	3,320	4,720	0	
2nd Division ...	0	0	0	0	0	0	0	0	This Superintendency was abolished <i>pro tem</i> , a moiety of the establishment being draughted into the 1st Division, and the rest discharged
3rd Division ...	4	4,731	4,735	0	3,029	765	4,604	41	The 3,929 villages internally plotted were found to contain 74,459 chucks, including 37 villages situated within the circuit of the city of Dacca, partly measured by khusreh, and containing 579 daghs comprised in an area of 146 beegahs.
4th Division ...	0	1,203	1,203	61	572	570	1,203	0	The 61 villages measured by khusreh were found to contain 27,925 khets or fields with an area of 53,613 beegahs. Those internally plotted contained 24,763 chucks.

57 to 30th September 1858.

R6-A1

261-A2

DIVISION.	MOUZAHWAR.								REMARKS.
	BENGALIEE.								
	Number of entries of villages made and to be made in Registers of the preceding column.	Registers completed and forwarded to the Collector.	Registers completed but not yet forwarded.	Total completed.	Number of entries of villages in Registers of the preceding column.	Half finished.	Less than half finished.	Number of entries of villages made and to be made in the Registers of the preceding column.	
1ST DIVISION.	78 entered & 1,409 to be entered	38	6	44	10,816	0	0	0	
	3,201 to be entered	34	6	40	1,697	7	0	3,168 entered & 33 to be entered	
	5,708 to be entered	9	1	10	760	17	17	423 entered & 5,285 to be entered	
	0	0	4	4	1,125	0	0	0	
	5,903 to be entered	6	2	8	273	18	24	2,110 entered & 3,793 to be entered	
2ND DIVISION.	4,631 made	0	0	0	0	4	0	4,631 made	
	0	0	0	0	0	0	25	4,851 to be entered	
3RD DIVISION ...	1,919 made and 1,338 to be made	0	6	6	420	17	3	8,286 made and 2,062 to be made	Of the whole District 2,652 villages remain for entry either wholly or partially.
4TH DIVISION ...	210 made and 2,902 to be made	51	3	54	4,410	5	5	977 made and 2,228 to be made	

CONDITION of the Survey Registers in the four Bengal Survey Superintendencies, from 1st October 1857 to 30th September 1858.

261-A1

261-A2

DIVISION.	DISTRICT.	MEHALWAR.															MOUZAHWAR.															REMARKS.		
		ENGLISH.									BENGALIE.						ENGLISH.									BENGALIE.								
		Number of Pergunnahs in which survey has been completed.			Registers completed and forwarded to the Collector.			Registers completed but not yet forwarded.			Total completed.	Number of entries of villages in Registers of the preceding columns.			Remain- ing incom- plete.			Number of entries of villages made and to be made in Registers of the preceding column.			Registers completed and for- warded to the Collector.			Registers completed but not yet forwarded.			Total completed.	Number of entries of villages in Registers of the preced- ing column.			Remain- ing incom- plete.			Number of entries of villages made and to be made in Registers of the preced- ing column.
1ST DIVISION.	Rajshahye ...	44	38	5	43	10,205	1	0	3,116	38	6	44	13,839	0	0	0	38	5	43	9,329	0	1	78	38	6	44	10,816	0	0	0				
	Pubna ...	47	34	6	40	1,879	0	7	3,201	34	6	40	1,879	7	0	3,168	34	6	40	1,697	0	7	3,201	34	6	40	1,697	7	0	3,168				
	Bograh ...	44	9	1	10	907	0	34	5,708	9	1	10	907	3	31	23	9	1	10	760	0	34	5,708	9	1	10	760	17	17	423				
	Dinapore ...	4	0	4	4	1,172	0	0	0	0	4	4	1,172	0	0	0	0	4	4	1,125	0	0	0	0	4	4	1,125	0	0	0				
	Rungpore ...	50	6	2	8	296	0	42	5,903	6	2	8	296	6	36	1,500	6	2	8	273	0	42	5,903	6	2	8	273	18	24	2,110				
2ND DIVISION.	Bancoorah ...	4	0	0	0	0	0	4	7,585	0	0	0	0	0	4	6,085	0	0	0	0	4	0	4,631	0	0	0	0	4	0	4,631				
	Burdwan ...	25	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	25	4,851					
3RD DIVISION	Mymensing ...	26	0	6	6	420	6	14	1,879	0	6	6	420	14	6	6,085	0	6	6	420	6	14	1,919	0	6	6	420	17	3	8,286	Of the whole District 2,652 villages remain for entry either wholly or partially.			
4TH DIVISION	Moorshedabad ...	64	51	0	51	5,140	1	12	237	51	9	54	5,635	5	5	1,851	51	0	51	3,891	1	12	210	51	3	54	4,410	5	5	977				

EXPENSES incurred on account of the four Bengal Survey Superintendencies from 1st October 1857 to 30th September 1858.

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1. MONTHS.	2. Salaries of Superintendents.	3. Salaries of Assistant Superintendents.	4. Salaries and office establishment of Deputy Collectors.	5. Officiating deputations allowance.	6. Office establishment of Superintendents.	7. Office establishment of Assistants.	8. Extra establishment.	9. Field establishment.	10. Office rent.	11. Taxes and Muzcoore Peons.	12. Contingent Charges.	13. Total.	14. PARTICULARS OF CONTINGENT CHARGES.																
													DIVISION.	TRAVELLING ALLOWANCES					Stationery.	Feed of Elephants.	Native Doctors.	OFFICE CONTINGENCIES			Total.				
Of Superintendents.	Of establishment.	Of Assistants and their establishment.	Of Deputy Collectors.	Of establishment.	Of Superintendents.	Of Assistants.	Of Deputy Collectors.																						
October 1857	3500 0 0	700 0 0	3800 0 0	0 0 0	1202 9 10	200 0 0	685 0 0	4301 0 3	196 0 0	50 12 0	552 18 92	15278 2 102																	
November	3500 0 0	700 0 0	3966 10 8	0 0 0	1290 4 0	100 0 0	685 0 0	4068 13 2	203 10 8	50 10 4	834 13 8	15408 14 1																	
December	3500 0 0	700 0 0	4000 0 0	0 0 0	1286 7 10	100 0 0	672 0 0	6324 2 1	168 10 6	81 0 0	3097 0 82	19924 12 72																	
January 1858	3500 0 0	700 0 0	4000 0 0	0 0 0	1226 8 9	100 0 0	635 0 0	6702 7 0	150 0 0	167 5 0	2782 11 1	19968 11 62																	
February	3500 0 0	700 0 0	4000 0 0	0 0 0	1233 0 0	100 0 0	635 0 0	6712 0 0	160 0 0	221 2 8	2461 18 8	19793 5 6																	
March	3604 13 5	700 0 0	3793 8 9	0 0 0	1232 12 0	100 0 0	635 0 0	6864 12 6	180 0 0	211 2 10	2871 18 22	20198 14 72	1st Division	948 8 0	1121 8 32	85 0 0	2505 12 0	778 7 42	760 10 112	1638 11 02	150 0 0	773 3 6	18 1 0	235 1 3	8990 15 42				
April	3750 0 0	700 0 0	3860 0 0	0 0 0	1233 0 0	100 0 0	635 0 0	6710 8 9	180 0 0	286 8 0	2666 7 102	20111 8 72	2nd Division	0 0 0	0 0 0	0 0 0	167 1 11	0 0 0	65 3 2	0 0 0	0 0 0	05 0 0	0 0 0	143 13 9	471 11 4				
May	3750 0 0	874 3 1	4004 0 0	0 0 0	1233 0 0	100 0 0	635 0 0	6644 14 9	230 0 0	310 10 0	3077 7 32	20859 2 12	3rd Division	650 0 0	266 0 7	0 0 0	2167 0 0	680 11 11	735 13 7	1525 6 6	149 7 10	506 8 10	0 0 0	582 14 8	7263 10 11				
June	3290 0 0	400 0 0	4096 10 8	173 5 4	1215 0 0	100 0 0	644 0 0	5099 2 0	180 10 8	274 14 0	2166 5 10	17460 0 7	4th Division	915 0 0	580 15 8	988 12 7	1832 0 0	394 9 3	351 11 4	298 8 0	214 0 4	1106 2 0	104 8 0	189 11 0	6470 13 9				
July	3200 0 0	400 0 0	4100 0 0	200 0 0	1211 1 1	100 0 0	644 0 0	4248 1 4	213 12 11	233 14 5	1114 6 62	15665 4 32	Total	2613 8 0	1968 8 12	1068 12 7	6161 13 11	1853 13 62	1993 7 1	3357 9 62	513 8 2	22451 2 4	122 9 0	1161 8 2	23096 8 42				
August	3200 0 0	400 0 0	4100 0 0	200 0 0	1213 0 0	100 0 0	644 0 0	3949 3 9	237 0 0	259 0 9	642 9 12	14944 13 72																	
September	3200 0 0	400 0 0	4173 5 4	200 0 0	1213 0 0	100 0 0	644 0 0	3845 1 9	237 0 0	198 10 0	847 14 11	16069 0 0																	
Total drawn for each class	41404 13 6	7374 3 1	47890 3 5	773 5 4	14888 6 6	1300 0 0	7793 7 7	65380 10 6	2321 12 9	2345 9 7	23096 3 42	214568 11 62																	
Authorized for each class	41404 13 5	7374 3 1	47890 3 5	773 5 4	15317 5 4	1300 0 0	7793 7 7	66506 13 3	2321 12 9	2345 9 7	23096 3 42	216623 19 72																	
Amount unexpended	0 0 0	0 0 0	0 0 0	0 0 0	928 14 10	0 0 0	0 0 0	1126 3 3	0 0 0	0 0 0	0 0 0	2055 2 1																	

The non-professional charges incurred in the 5th or Arracan Division were as follows :-
 Demarcation establishment Re. 898 4 0
 Boat hire " 1068 0 0
 Cutting jungle " 2952 0 0
 Feed of elephants " 1336 2 4
 Total..... " 6254 6 4

The sum drawn is thus distributed Divisionally.													Savings		Fund from Fees and Costs of Suits.	Total.	
	Of this year.	Of former years.															
1st Division	11404 13 5	2000 0 0	19190 3 5	773 5 4	4236 0 0	500 0 0	2400 0 0	24673 4 2	724 7 7	1506 4 0	8990 15 42	76369 5 32	446 11 10	0 0 0	884 5 12	1331 0 112	Rupees 142 searching fees sent to Collector not included.
2nd Division	0 0 0	0 0 0	0 0 0	0 0 0	2466 0 0	0 0 0	1373 7 7	1354 13 3	0 0 0	0 0 0	471 11 0	5606 0 8	895 5 4	2879 6 7	0 0 0	3774 11 11	The expenses of this Division are limited to those connected with the arrears of registry work under the Collector of Burdwan
3rd Division	12000 0 0	0 0 0	17930 0 0	0 0 0	3981 0 0	0 0 0	2820 0 0	19060 15 9	1052 14 4	734 1 7	7263 10 11	65735 10 7	31 0 3	18109 14 7	6108 0 10	24338 15 8	Rupees 6108-0-10 levied in boundary dispute cases, of which Rupees 2504-4-2 belongs to 1857-58, and the remainder to the two years immediately preceding, sent to the Collector to be credited to Government.
4th Division	15000 0 0	5374 3 1	10800 0 0	0 0 0	4205 0 6	800 0 0	1200 0 0	10388 8 10	544 6 10	15 4 0	6470 13 9	60798 11 0	682 0 8	2076 4 4	0 0 0	2758 5 0	In the 5th or Arracan Division the savings on the authorized expense of the Demarcation establishment amount to Rupees 665-7-4 of which Rupees 217-12-0 belong to former years
Total	41404 13 5	7374 3 1	47890 3 5	773 5 4	14888 6 6	1300 0 0	7793 7 7	65380 10 6	2321 12 9	2345 9 7	23096 3 42	214568 11 62	2065 2 1	23156 9 6	6092 5 112	32203 1 62	

FROM

THE DEPUTY SURVEYOR GENERAL,

TO

THE SECRETARY TO THE BOARD OF REVENUE,

LOWER PROVINCES,

FORT WILLIAM.

Dated Calcutta, 2nd April 1859.

SIR,

THE Annual Reports and Returns for Season 1857-58 of the several Revenue Survey Establishments under the jurisdiction of the Government of Bengal, having been received and examined, I have the honor to transmit herewith for the information of the Board of Revenue, Lower Provinces, and for submission to His Honor, the Lieutenant-Governor of Bengal, the annexed Tabular Statement, containing a condensed Report of the Revenue Survey Operations in Bengal for the past season.

2. The documents which accompany this periodical Return, are the original Table B of the Five Divisions of the Bengal and Arracan Surveys, and Tables A, B, E, F and H, prepared in this Office, and exhibit the cost, rate, and distribution of the several items of monthly expenditure, and the savings effected to Government after defraying all charges from the annual maximum grant authorised for each Establishment.

I have &c.,

(Signed) H. L. THUILLIER,

REVENUE SURVEYOR GENERAL'S OFFICE.

Deputy Surveyor General.

ANNUAL REPORT of the Revenue Survey Operations in the Lower Provinces, subject to the jurisdiction of the Lieutenant-Governor of Bengal, for Season 1857-58, or from the 1st October 1857 to the 30th September 1858.

No. 59, Dated Calcutta, 2nd April 1859.

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
<p>SUPERINTENDENT, Major H. L. Thullier, Bengal Artillery, Deputy Surveyor General of India, and Superintendent Revenue Surveys. 5th February 1847.</p>	<p>General superintendence and control of the operations of the Department in the three Divisions of the Presidency: Bengal, North Western Provinces, and the Punjab, together with Sind and Nagpore.</p>	<p>GENERAL REMARKS. The Revenue Survey Operations in the Lower Provinces of Bengal during the past season, embrace an aggregate area of 6,765 square miles in the five Districts marginally cited; each of these Districts continue under survey, and only one of them, Jessore, may now be said to be completed. Dinagepore and Dacca were entered upon at the commencement of the season under review, and together with Akryab will take some time, whilst Rungpore may be expected to be got out of hand during the Season 1858-59, and Kooch Behar also commenced for Topographical operations only. 2. This out-turn by the same parties of nearly the same strength as before, is less by 1,200 square miles than that of the preceding season, the causes of which, to be found in the 2nd and 4th Divisions, are fully explained; but the results effected, average 1,153 square miles to each Division, 39 blocks or main circuits containing 5,949 Village circuits or Hulkas as separately demarcated by the Civil Department, have been accurately laid down and minutely mapped in detail. The number of Pergunnahs or separate portions of Pergunnahs interspersed in the wildest confusion over each Surveyor's field of operations, cannot be recorded, for in some Districts, nearly every Village bears the name of a different Pergunnah. 3. The outlay incurred for this work, amounts to one lac sixty-three thousand and forty-five rupees, twelve annas and nine pic per square mile, which yields a general average rate of Rupees 28-11-8 (1,63,045-12-9) and Rupees 23-0-5 per Village circuit, excluding the Return from Arracan, which survey for the most part consisting of tracts of hills and dense jungle, cannot fairly affect this latter average.</p>	<p>47. Prosecution of the same duties, in the general superintendence of the Revenue Surveys. 48. The probable out-turn for the Season 1858-59, it is expected, will at least equal the past season. The prospects in each Division being very fair.</p>	<p>49. Of the five Regulation Districts noted in last Report as remaining to be surveyed, one, Furreedpore has been taken up during this current Season of 1858-59, leaving therefore only four to be done as marginally cited. 50. The Chota Nagpore (Non-Regulation) Division, has likewise been entered on, by the transfer of a full and complete Establishment from the Baree Doab of the Punjab under Captain G. Hunter Thompson, an experienced and excellent Surveyor, by orders of the Government of India; the Foreign Department, No. 4,076 dated the 26th October last, and the District of Hazareebaugh is at the present date under actual survey; the tract North of the Trunk Road known as the Burhee Sub-Division having been first commenced with. 51. The totally unknown state of this part of Bengal, even along</p>

the Great Trunk Road from Ranee-
 gunge almost to Shergotty, and the
 pressing necessity which has so
 long existed for Geographical in-
 formation of the Chota Nagpore
 Division, induced the Government
 of India, on the recommendation
 of the Surveyor General of India
 and myself, to permit the services
 of this available efficient party
 to be made use of for the purpose;
 an advantage which no doubt has
 been sufficiently appreciated by
 His Honor the Lieutenant-Gover-
 nor, since the cost of the operations
 will be greatly lessened, and the
 work expedited by the employ-
 ment of an experienced and full
 party, under so able an Officer as
 Captain Thompson.

52. It is a point of great impor-
 tance to get the remaining few Dis-
 tricts of Eastern Bengal survey-
 ed; until which is done, all desul-
 tory and minor surveys as fre-
 quently called for by Local Authori-
 ties for special purposes, cannot
 be undertaken. Calls of this nature
 have lately been made. *First*.—For
 a Survey of the new Tea Planta-
 tions in Cachar. *Secondly*.—For
 a Survey of the Dearas or Islands
 and Churs of the Gauges between
 Patna, Sarun, and Tirhoot Districts,
 and *Thirdly*.—For a demarcation
 and measurement of certain Vil-
 lages and Estates in Jugdeesore
 of Shahabad. It has been found
 impossible to furnish and detach
 competent Assistant Surveyors
 for this purpose, since each Exe-
 cutive Surveyor having made his
 dispositions for the season, the
 withdrawal of a single Assistant

4. These general results are thus derived, and the following Table
 gives a comparison with the out-turn of the previous season, as de-
 tailed in the last Report.

NUMBER OF DIVISIONS.	Names of Superintending Officers.	Males Circuits or Pargunnas of Hills	Number of Hill- Circuits	Average size of Traverse Circuits	Total area Sur- veyed in Square Miles.	Total Cost.		Average rate per Square Mile.		Average rate per Traverse Circuit.	
						Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.		
1st or Northern Division	J. J. Pemberton, Esq.	9	1,516	633.46	1,512.37	34,679	5 7	22 14	10	22 14	0
2nd or Southern Division	Captain W. S. Row	3	5,077	316.00	532.54	31,225	6 8	58 10	1	28 15	10
3rd or Eastern Division	C. F. Dray, Esq.	6	7,113	683.38	1,218.48	33,033	9 9	27 9	7	15 14	3
4th or Western Division	Captain E. Cassell	9	2,133	683.38	1,421.35	20,911	3 0	34 5	8	34	2 1
5th or African Division	J. H. O'Donnell, Esq.	12	1,183	6,080.12	1,432.60	27,411	3 9	18 14	7	150	1 10
Total for Season 1857-58		39	5,940	620.22	5,765.14	1,63,045	12 9	28 11	8	27	6 6
Ditto	1856-57	68	6,411	665.00	6,965.60	1,76,183	1 14	24 12	5	26 14	10
	Difference	- 29	- 462	- 74.73	- 1,309.56	- 13,137	4 44	+ 3 15	3	+ 0 7	3

5. The above expenditure includes the sum of Rupees 2,817-12-4,
 on account of the calculation of the internal mehals measured and
 laid down on the Thak Bust Maps by the Civil Department, and
 which is not fairly chargeable to the professional operations, the
 actual mileage rate will therefore be reduced to Rupees 27-12-8, or if
 the expense of the feed and keep of Elephants as drawn in the Con-
 sultant Bills which amounts to Rupees 5,634-1-3 is taken into consi-
 deration, the cost per square mile will be raised to Rupees 28-12-4.
 The regular contingent charges of the Survey Department which are
 paid out of the fixed annual grants, always have constituted an item
 in the elements of the Tables on which the rates are calculated, but the
 feed and keep of Elephants have hitherto not been included, because
 the use of these animals belonging to Government by the Survey De-
 partment, has been no increased cost to the State; indeed in the Dis-
 tricts traversed by the Surveyors, grain and fodder has generally been
 cheaper than that supplied by the Commissariat. It is, however, doubt-
 less right and proper, as the Board observe in their last Report to Go-
 vernment, that these charges should be noted, and they are accordingly
 given.

6. The total maximum grants sanctioned for the five Survey Esta-
 blishments, is Rupees 1,87,620; there is consequently a saving of
 Rupees 24,574-3-3 effected on the season's out-turn. From this saving,
 however, the salary of Captain W. S. Sherwill, Revenue Surveyor, on

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REVENUE SURVEY DEPARTMENT.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p style="text-align: center;">GENERAL REMARKS.—(Continued.)</p> <p>deputation as Boundary Commissioner for the adjustment of the Civil and Criminal Jurisdictions, viz. Rupees 6,312 has to be provided; leaving therefore a net saving of Rupees 18,262-3-3.</p> <p>7. The comparative results as regards total area and average cost, are not in favor of the season under review; the mileage rate being nearly Rupees 4 in excess of that of 1856-57. This was fully anticipated and noticed in my last Report. The loss of two of our ablest Executive Surveyors, the taking up of a new and distant District "Dinapore" by the 2nd Division party, as well as the extraordinary intricacy and difficult nature of the ground traversed by the 4th Division in the Soonderbund portion of Jessore, could not but tend to a slightly reduced area and consequent increased cost; but the present Return is a very fair one, taking the past five seasons into consideration, the mean average of which is 5,388 square miles effected, and Rupees 27-15-2 the rate.</p> <p>8. In order that the Board and the Government of Bengal may estimate more precisely the rates of the Surveys executed in the Lower Provinces, I take occasion to annex 2 copies of my last printed Report on the Surveys in the North-Western Provinces and Punjab, which will show the comparative results in the three Divisions of this Presidency, and likewise afford some information as to the extent of duties devolving on this Office, in connection with the Revenue Surveys.</p> <p>9. The exertions of the several Surveyors have been conspicuous during an unusually trying season. Captain Gastrell stands pre-eminent as the most accomplished and successful, for the general beautiful and excellent style in which he renders all his work. Although he has not so large an area to show, as he had the previous season, yet his maps amply prove the severity of his labors in the very intricate maze of Tidal Creeks and Rivers, and unhealthy jungles of the Soonderbuns. The Government do not possess a more zealous or indefatigable public servant, or one more deserving of approbation for continued success in a most arduous profession. Messrs. Pemberton and O'Donel have contributed well to the general results, and furnished Returns which are highly creditable to their persevering industry under many diffi-</p>		<p>properly equipped, would upset all his arrangements. The machinery of the Revenue Survey Department, when once in full work, cannot be stopped without endangering the season's work of a District, and raising the cost very materially.</p> <p>53. When the services of any party shall become available, and it is expected that the 2nd Division in Dinapore will be first out of work, it appears to me highly necessary, that a continuous and revised Survey of the River Gauges with all its Dearahs and subtending Villages on both banks, should be carried out by triangulation from the Ghogra River on the North-West Frontier to its confluence with the Megna East of Dacca. The changes which have taken place in the course of the River since the survey of each District was executed, are very great; and from the piecemeal style of the survey of small portions only in a single season, the difficulty of making the maps of adjoining Districts North and South of the Ganges is very great.</p> <p>54. In the North-West Provinces, an excellent survey of a portion of the Ganges River from Furruckabad to Hardwar, was</p>

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culties. In Arracan, the nature of the duties are especially severe : and I have great reason to express my acknowledgments to Mr. O'Donel, for the admirable way in which he contends against that most inhospitable Country for a Surveyor's purpose. Mr. Davey in his first season at Dacca, has well sustained the promise he gave. I am perfectly satisfied with the results of his work and with the quantity performed, which evinces much care and anxiety for a high standard of excellence. Of Captain Row's management I regret I cannot speak in terms of commendation ; the state of health of this Officer throughout, has been quite opposed to active exertion ; and without physical powers, no man can make a Surveyor. Captain Row I am sure has tried his best, and he has several good qualities, but it has been with great difficulty his small area has been effected, the results of which were, at the last moment on his departure for Europe, thrown into this Office in an incomplete and unfinished state, and but very imperfectly described.

10. In consequence of the very weak state of the Department in the Lower Provinces, caused by the retirement from the service of Major Smyth, the departure to Europe of Captain Row ; and from no Covenanted Assistants having been appointed for a very long time, it was necessary to look to the Punjab for a competent Officer to take charge of the 2nd Division in the place of Captain Row ; and Captain James L. Sherwill attached to the Deryjat Survey, an Assistant of great promise and of two years apprenticeship in the Department, was recommended to be brought down, and has succeeded to the officiating charge of the Dinagore Survey, by orders of Government No. 14, dated the 3rd January last. The two Bengal Surveys under Covenanted Surveyors, are still without Covenanted Assistants ; and in order to maintain the efficiency of the Department, and to meet pressing demands for qualified and experienced Surveyors on any emergency, it is most essential that these posts should be filled up, as so often and so urgently recommended by myself ; I trust, therefore, that this measure may be carried out, whenever the exigencies of the Public Service will permit young Officers of the required qualifications to be withdrawn from their Regiments.

11. In the Mapping branch of my Office, the District Maps have been prosecuted as far as possible with the limited means at my disposal for this object ; and the materials received from the several Surveyors, have been combined and made use of to the best advantage. The District Map of Jessore on the prescribed Geographical scale of 4 miles to the inch, is in an advanced state. A small portion of the Soonderbuns appertaining to this District, is only now under survey ; and when the Map of this can be prepared by the Surveyor, the general compilation will be finished and sent to Press for immediate Lithography. This map will materially help to fill up sheets Nos. 120 and 121 of the Indian Atlas.

made a few years ago, which has proved quite invaluable for Geographical purposes, whilst it affords the very best assistance to local Officers in the Settlement of the many serious disputes, which are continually arising on the great questions of alluvion.

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REVENUE SURVEY DEPARTMENT.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
	<p style="text-align: center;">GENERAL REMARKS.—(Continued.)</p> <p>12. The preliminary Map of Mymensing entire District, has been completed on the same scale, and sent to the Press for publication, and the final map now just taken in hand.</p> <p>13. The final Map of the Burdwan District on the same scale, has been lithographed, colored, and issued, and 30 copies transmitted to the India House through the Military Department.</p> <p>14. The final Maps of the Bancoorah and Pubna Districts on the same scale, have been transmitted to England through the same channel; the preliminary maps of the same having been previously lithographed here.</p> <p>15. The Map of Sikkim on the same scale, has been received back from England lithographed.</p> <p>16. Sheets Nos. 102 and 111 of the Engraved Indian Atlas containing Goruckpore, Sarun, Tirhoot, parts of Monglyr, Bhaugulpore and Nepal, have been received from the India House since the last Report, and have proved of eminent service to the many Officers employed in those parts, and especially on the Oude Frontier. They have been largely distributed, and a further supply indented for from England.</p> <p>17. The final Map of the Akyab District on the same scale, has likewise been taken in hand, and prosecuted to the extent of the materials received; but a very large area yet remains of this District to be surveyed.</p> <p>18. Thus, all the Districts completely surveyed, or approaching completion, have been well provided for. Rungpore is the next District, the mapping of which requires attention, as the survey of it may be expected will be finished by the end of the present season, the general 4 mile map will therefore be taken up forthwith.</p> <p>19. The one inch block or main Circuit Maps showing Village boundaries which are all of the most elaborate description and fully equal if not superior to those of any former season's work, are lithographed precisely as they come from the Executive Surveyors. During the year, the whole of the maps of Rajshahce Bancoorah, Burdwan, Bograh, and Pubna, have been lithographed and issued in this style, and are found most useful for all local purposes; especially for Railway schemes, and for the adjustment of the Thannah jurisdictions. The Jessore,</p>			

Rangpore, and Mymensing Maps on the same scale, are now going through the Press, and it is my endeavour to re-produce these most valuable records by lithography at the earliest possible period. The immense demands, however, on the Lithographic Press from various Departments, and the number of Maps of the North-Western Provinces destroyed by the rebels requiring to be supplied under the orders of the Supreme Government, prevent that rapid progress with the results of the current surveys, which I could desire. Considering this heavy pressure at the present moment, the Bengal Records have, I think, been very successfully pushed forward.

20. The sheets of the Village Survey on the larger scale of 4 inches to the mile, have been admirably rendered according to the new system of clustering Village Plans together as previously described in former Reports. They are all bound uniformly in convenient size Atlases, prefaced with proper alphabetical lists, and continue to be highly approved by all who have seen them.

21. An excellent Plan of the Town and Station of Burdwan on the scale of 12 inches=1 mile by Major Smyth, has been lithographed and issued; likewise the Kaneegung Coal Field and surrounding Country on a scale of 4 inches to the mile, which was much in demand by speculators and proprietors of the Coal mines.

22. The great destruction of Survey Records in the North-Western Provinces and Behar by the rebels, and the desire of the Supreme Government that I should replace them as soon as possible, necessitated my drawing up a Report on the whole question, and representing to the Government of India the pressing want, I had long labored under, of a proper Establishment for the ministerial duties of my Office as Superintendent of all the Revenue Surveys on this side of India, which of late years have grown so numerous, and by increased efficiency and practice, have progressed to so very large an extent. The increased Establishment which I felt to be so absolutely essential to enable me vigorously and promptly to meet the exigencies of the Public Service, was recently most readily and liberally granted, which, when it can be organized, will enable me to carry on the constantly growing duties of the Department with much more satisfaction to myself.

23. For some months past, great exertions have been made to supply those local Officers who were supposed to stand most in need of the Survey Records of their Districts, and very considerable progress has already been made towards effecting duplicates of 32,430 Village Plans and 203 Pergunnah Maps destroyed by the rebels, the originals of which are fortunately forthcoming in this Office.

24. Amongst other officials, the Deputy Commissioner of the Sonthal Pergunnahs has been duly supplied with 10 handsome volumes

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REVENUE SURVEY DEPARTMENT.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p style="text-align: center;">GENERAL REMARKS.—(Continued.)</p> <p>containing 1,199 Village Plans of the Tuppa Suruth Deoghur of Beerbhoom District, made Non-Regulation by Act X. of 1857. These volumes have been very well got up indeed, and rendered as complete as possible, with alphabetical Indices, Topographical references, Statistical Report, and General Map prefixed. It is to be hoped that the Local Authorities will care for them accordingly. The transcription of these plans has been executed by extra draftsmen at an average rate of one Rupee each, and I am indebted for their early accomplishment to the Superintendent of the Drawing Branch of my Office, Mr. W. R. M. Graham, through whose able, indefatigable, and unceasing endeavours, the pressing calls of so many Local Authorities have been thus met.</p> <p>25. With reference to the Shahabad and Behar District Village Plans alluded to in my last Report, which have to be copied amounting in the aggregate to 16,230 Plans, the Collector of Behar has recently reported, that about 2,000 Village Plans have been recovered, scattered about in different places and appertaining to various Pergunnahs. To enable this Office to arrange and complete the volumes fit for a permanent Record, it will be advisable for the recovered Plans to be sent down to me, when the labor of again copying such Plans as may be forthcoming will be saved; the Collector of Shahabad will likewise be consulted on this point.</p> <p>26. During the past year, the long expected new Plan of the City of Calcutta engraved in England from Mr. Simm's Survey conducted in 1847-49, has been sent out to the extent of 25 copies only, which have been turned to the best practical account, by distribution to those Officials most requiring them. This Plan is a very valuable one indeed, and has been admirably engraved, showing all the improvements up to a late date, as well as the River Hooghly and Town of Howrah, Seebpore, &c., on the opposite bank, surveyed expressly for this purpose under my own Superintendence in 1856, owing to Mr. Simm's having omitted to embrace it in his survey. It is a pity, that a larger supply of this Plan has not been sent out for sale to the</p>		

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 Public, since it has been so long eagerly looked for; advice has recently reached me, of a large number of copies having been shipped via the Cape.

27. From this large Plan, which is on a scale of nearly 14 inches to the mile, a reduction has been made in this Office to 6 inches, with a view of connecting it with Major Smyth's admirable Plan of the suburbs (called Panchannogram) on the same scale, and which I have long been anxious to lithograph for general purposes, to meet the pressing wants of the several new Railway Companies, as well as for the new Drainage Works. I hope to be able to put this elaborate and difficult map on the stone during the course of the current year, but it must be a work of time. From the above reduction, another still smaller Plan on a scale of 3 inches to the mile, or 1,760 feet to the inch, showing the principal Public Offices and buildings, has been prepared and lithographed by order of the Government of India in the Military Department, with a view to the same being attached to a pamphlet of "Instructions for Officers and Troops landing at Calcutta," and one thousand copies have been furnished for this purpose. This latter Plan will also be very useful for conservancy and other purposes.

28. Adverting to what was stated in the last Report on the subject of a new map of the Nulden District on the larger scale of 2 miles to the inch showing the revised Civil and Criminal Jurisdictions, I regret to have to record, that owing to the delays in adjusting these boundaries by the Local Authorities, no progress whatever has been made towards completing the map of this important District, which is eagerly looked for by the numerous Planters and British residents in that part of the Country, and is also urgently required for Railway purposes.

29. As stated in the last Report, the Boundary Commissioner's enquiries are tedious, and the progress made, very limited; but even such Districts as are settled and receive the confirmation of Government, are immediately afterwards re-opened by fresh propositions from succeeding Civil Authorities, and alterations in sites of Thannahs as well as in the limits of their jurisdictions are continually presenting themselves, so that the revised maps issued after much labor in this Office, speedily become incorrect. Nor is this all; from information derived from several Commissioners of Divisions, I learn that these Civil and Criminal jurisdictions as laid down by the Boundary Commissioner, approved and attested by the three Chief Civil Authorities of every District, and duly confirmed by the Government of Ben-

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REVENUE SURVEY DEPARTMENT.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
GENERAL REMARKS.—(Continued)				
<p>gal, are, nevertheless, scarcely in a single District yet recognised or adopted. It is equally certain, that both existing Commissioners and other Local Authorities advance strong objections to these revised jurisdictions, and fresh propositions are every where rife, and only await a fitting opportunity to be brought forward.</p>				
<p>30. The duties of the Boundary Commissioner Captain Sherwill, which commenced in 1853, have been conducted under the immediate instructions of the Government of Bengal through this Office. The additional correspondence and trouble which has been caused to this Department in consequence, has been very great; infinitely greater indeed than that of another Survey party, and it appears to me highly unsatisfactory and disheartening, after all that has been done in a period of 6 years, and after the heavy expense of a Revenue Surveyor deputed on this special duty, that some more practical and useful results have not taken place. The subject appears to me to demand the interference of the Government; and as such, I have felt it my duty to give it prominent notice in this place.</p>				
<p>31. What Behar and Bengal stand in need of, is good maps of the Civil and Criminal jurisdictions of the Country, of such jurisdictions as are known, appreciated and acted on; since the fiscal Boundaries are so perplexing and intricate, and so utterly useless for all practical purposes.</p>				
<p>32. When there shall be any evidence or certainty of final results being attainable as to the Civil and Criminal jurisdictions, I propose to construct Division maps of each Commissionership, which I believe to be a very great desideratum. We have some very fine maps of this description for the Punjab, which are much admired and sought after; but it is obviously hopeless to undertake similar ones for Bengal, as long as the Sub-divisions of the Country are perpetually changing, and the Thannah Boundaries although laid down and sanctioned by Government are not adopted, or in any way known or attempted to be enforced by the Executive.</p>				

33. With the Board's letter No. 25 dated the 24th November 1858, I was favored with an extract from a Despatch from the late Hon'ble Court of Directors to the Government of India in the Revenue Department, No. 7 dated the 18th August 1856, as marginally quoted. It must be of course highly gratifying to this Department, to hear such testimony adduced by the highest authority, as to the advantages resulting

from the Revenue Surveys on this side of India. Although the Department has for a long series of years labored steadily and strenuously through good report and evil report, amidst many disappointments, delays, and discouragements, I have always felt convinced, that sooner or later, the great results emanating therefrom, would become appreciated, and felt as they deserved to be. If the tendency of our operations is to diminish crime, to check litigation, to give security to titles and to increase the value of landed property, as well undoubtedly as it is, to increase geographical knowledge, to make clear and intelligible where all was previously dark and unknown, to pave the way for the Engineer and the Geologist, whereby alone the great natural resources of the Country can ever be opened up, then assuredly is the Survey "worth much more to the Government and the people, than it has cost," and the only mistake appears to be, that such obvious benefits and such inestimable blessings, were not carried out in their fullest extent years ago. Much no doubt has been already effected, but a great deal yet remains to be accomplished, even in the Lower Provinces; for the Districts nearest the Metropolis are only now under survey, and it is to be hoped, that as long as a British or a Native State remains unmapped in this wide Presidency, the progress of our operations may never again be checked or stopped, or the efficiency of our Establishments destroyed, as they once most unfortunately were in 1844 under Lord Ellenborough's administration.

34. In the same Despatch, a Statement is called for to show the extent to which the survey has been completed, the extent of work remain-

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REVENUE SURVEY DEPARTMENT.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
	<p style="text-align: center;">GENERAL REMARKS.—(Continued.)</p> <p>ing to be accomplished, with the estimated amount of expenditure for the same, also as to the nature of the survey. To meet this call as fully as possible, and as far as regards the Lower Provinces, the annexed Tabular Statement marked H has been prepared embracing all the completed Districts or partial Surveys up to the present time from the commencement in 1834-35, and exhibiting 31 Districts or Zillahs with 3 partial Surveys of an aggregate area of 95,340.42 square miles, executed at a total cost of Rupees 24,77,800, which gives a general average rate per square mile of Rupees 25-15-9. For this we have a minute detail Survey. Revenue as well as Topographical, the unit of which is the Village Division. From these boundaries forming a net work over the whole country of parcels of land, averaging from 300 to 600 acres each only, all other Territorial, Civil, Criminal, as Pergunnahs, Thannahs, Moonsaif's jurisdictions, are easily deduced and shown, whilst the fiscal Sub-divisions subordinate to a Village as Mehals and other Estates or Properties, are likewise laid down, calculated and mapped from the Khusrab or Native field measurements, for which the Table provides, up to the period when the combined duties were under the professional Survey or since the year 1850-51, this duty has been transferred to the Civil branch of the Survey by special orders of the Board of Revenue, after a long discussion and the strongest objections raised on my part. The present method of recording the internal Estates which exist in such wonderful confusion within almost every Village by the demarcation Establishments under the control of the Civil Superintendent, I believe to be useless and incomprehensible for any purpose whatever, in all the Districts of Eastern Bengal.</p>	<p>35. This Statement includes only those Districts, the survey of which is actually concluded; in addition to this area, there are 9 Districts in hand or remaining for survey, amounting to 27,100 square miles; which taken at the same general average rate, will cost about Rupees 7,04,176-9-0 more, making a grand total of Rupees 31,81,977-7-9, or nearly thirty two lacs of Rupees for the Regulation Provinces of Bengal. Of this latter number of Districts, 4 have been nearly finished or partly finished, as will be evident from the foregoing</p>		

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9 Districts remaining . . . 27,100 narrative. From the commencement of the present Season of 1858-59 therefore, the actual area remaining for Area completed of the above 9,100 survey in the Regulation Districts, may be assumed at 18,000 square miles as per margin, which at the present rate of progress, may possibly be completed in about four years.

36. The above does not include the Non-Regulation Provinces or Chota Nagpore Division estimated at about 37,000 square miles; the Districts of which have only just been taken up for survey. It is hoped that a great deal of this will be got over rapidly and cheaply, a topographical delineation only on a moderate scale being necessary, of all the wild, hilly, and uninhabited portions paying little or no Revenue to Government. Perhaps this may be done for about Rupees 10 the square mile or thereabouts, although it is impossible to say before hand, what obstructions or difficulties may delay the operations so as to increase their cost.

37. The Arracan Province is likewise excepted from the above estimate; it is quite impossible to say what area may be found in that quarter for survey, or how long it may occupy a single establishment.

38. My periodical operation reports both for Bengal and the North-Western Provinces, have dwelt at great length and with much detail as to the precise nature and character of the survey, and of the boundaries laid down; of the Districts and area surveyed, and what remains to be done; whether these Reports which of late years only have been printed, have ever reached my late Hon'ble Masters, I am unable to say; but they contain ample information on all the above points.

39. The sale to the public and distribution to officials of lithographed Maps, have continued to impose a very considerable task on this office, which it has been my first care to attend to promptly, knowing so well the importance of Officers whether Civil or Military being provided in this respect, in times such as we have just passed. The correspondence and accounts connected with this business has pressed very heavily, interfering with our more legitimate duties of which we always have a superabundance, whilst so many surveys are in progress.

40. No less than 4,907 lithographed Maps and Plans of various kinds, have been issued to Officials, Civil and Military, all over the country, whilst 833 have been sold to the public, making a total of 5,740.*

*From Surveyor General's Office	No.	1,743
" Revenue Surveyor General's Office	2,969	colored and despatched from the office
" Lithographic Press	1,137	during the twelve months ending with 31st March last.
Total..	5,740	these maps have been mounted on

REVENUE SURVEY DEPARTMENT.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.												
		<p>GENERAL REMARKS—(Continued.)</p> <p>cloth and folded book fashion or put on Rollers, thus entailing a vast addition to the calls made on this office; but the convenience to Officers marching about has been great, and the object has been to meet the wishes of every applicant to the utmost extent.</p> <p>41. The following abstract of Receipts and Payments for the same period, viz.: from 1st April 1858 to 31st March 1859, exhibits the sums realized or in course of realization, since the last Account Current was made up. It will be observed that Rupees 3,000 have been lodged in the General Treasury, the proceeds of maps sold.</p> <table border="0" style="width: 100%;"> <tr> <td></td> <td style="text-align: right;">Rs. As. Pie.</td> </tr> <tr> <td>Balance in favor of Government outstanding, as per last Annual Report, dated 31st March 1858</td> <td style="text-align: right;">939 3 4</td> </tr> <tr> <td>Amount received by sale of Maps and extra work executed at the Lithographic Press</td> <td style="text-align: right;">2,797 9 9</td> </tr> <tr> <td style="border-top: 1px solid black;">Total</td> <td style="text-align: right; border-top: 1px solid black;">3,736 13 1</td> </tr> <tr> <td>Deduct sums deposited in the General Treasury as per Sub-Treasurer's Receipts</td> <td style="text-align: right;">3,000 0 0</td> </tr> <tr> <td style="border-top: 1px solid black;">Balance in favor of Government outstanding</td> <td style="text-align: right; border-top: 1px solid black;">736 13 1</td> </tr> </table> <p>42. The coloring of this very large number of lithographed Maps, has been executed by job work, and the expense charged in regular Monthly Bills submitted to Government and the Board from the two separate Branches of my Department. The sums passed on this account amount to Rupees 2,176 as detailed in the margin. The value of maps sold therefore, exceeds the cost of Revenue Survey Office Bills 1,215 2 0 ditto 961 6 11 Total.. 2,176 9 11 and leaves a profit of itupees 621 to Government.</p>		Rs. As. Pie.	Balance in favor of Government outstanding, as per last Annual Report, dated 31st March 1858	939 3 4	Amount received by sale of Maps and extra work executed at the Lithographic Press	2,797 9 9	Total	3,736 13 1	Deduct sums deposited in the General Treasury as per Sub-Treasurer's Receipts	3,000 0 0	Balance in favor of Government outstanding	736 13 1		
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Deduct sums deposited in the General Treasury as per Sub-Treasurer's Receipts	3,000 0 0															
Balance in favor of Government outstanding	736 13 1															

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43. The lithographic branch has been very active during the year, and aided materially in bringing out good and useful maps to meet the exigencies of the times. Under the excellent management of Mr. H. M. Smith, this branch continues to afford very great satisfaction both to the Surveyor General of India and myself. The specimens of lithography now emanating from this Press, may fairly be compared with similar works executed in England, and reflect credit on the establishment which is a very hard working one generally.

44. The duties of my department during the past year in all its branches, have been as will be observed, extremely onerous; and it has been necessary to use great exertions to meet the incessant demands on us. Without increased and special labor on the part of some of my subordinates, I might have been in serious difficulties; but I have great satisfaction in recording that my Head Assistant Mr. E. W. Hoppner lending himself entirely to the work before him, has afforded me the greatest satisfaction and been of the most essential use. From a long departmental service, this Assistant Surveyor is thoroughly acquainted with all professional details; and by his cheerfulness and well directed efforts, makes it a pleasure to be associated with him. Mr. W. R. M. Graham is equally valuable and energetic in his own branch, and as before stated, his zeal and industry is above all praise. With the endeavours of my establishment generally, I have great cause for satisfaction and thankfulness.

45. As an encouragement to the unconvenanted grades of the Survey Department, I am desirous of seeing all appointments, leave of absence, and promotions of members drawing (100) one hundred Rupees and upwards, notified in the *Government Gazette*. This practice prevails in the Great Trigonometrical Survey of India under the special sanction of the Government of India, conveyed in a letter from the Secretary to Government Military Department, No. 197 dated the 5th July 1858, to the address of the Surveyor General of India. I trust, therefore, a similar concession will be made to the sister branch of the department, which I think would be attended with very good effect. Should the suggestion be approved of, I propose submitting a Draft memorandum in each case of what I should wish to publish.

46. I now proceed to notice in detail the operations of each Executive Surveyor.

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This includes the sum of Rs. 883-2-7, the cost of calculating the internal meahls on the Thakbust Maps of the Civil Department. The rate per square mile on this professional outlay is Rs. 22-5-6; and per village circuit, Rs. 22-5-1. The savings or undrawn sum is Rs. 2,844-10-5, whilst the contingencies for the feed and keep of Elephants, amount to Rs. 1,193-2-5, and this forms the only item of contingent expenditure on this survey for the season.

60. These rates are highly favorable, and that of the square mile, the lowest of all the regular surveys of this season; and lower than the same survey rate for the preceding season by Rs. 1-9-2, whilst the circuit rate is comparatively higher by Rs. 4-3-2, owing to the improvement in the average area of the villages, by which a much less number of circuits have been laid down in nearly the same area; the labor of the survey being in proportion to the number of villages separately surveyed, and proved according to professional principles. The contrast of the two seasons is as follows:—

Season.	Number of Main Circuits.	Number of Transverse Circuits.	Average size of Travels Circuits.	Area surveyed in Square Miles.	Cost.	Average rate per	
						Square Miles.	Village Circuit.
					Rs. As. P.	Rs. As. P.	Rs. As. P.
1856-57	7	1,032	504	1,445-81	35,423 15 0	23 14 8	18 1 11
1857-58	7	1,514	631	1,512-37	33,796 3 0	22 6 6	22 5 1
Differences	0	-482	+37	+66-56	-1,627 12 0	-1 9 2	+4 3 2

61. The Surveyor of this Division has fully answered the expectations formed when the professional Establishments were raised to the full strength; the progress made by him during the last two seasons, as above shown, is exceedingly good. In a fair and open country properly prepared for survey by plenty of adjusted boundaries, such an area and so great a number of villages, can be effected with due management, and it is highly creditable to the Department, that the Executive Surveyors are not slow to take full advantage of the means at their disposal. In the Rungpore District, there have been many drawbacks and difficulties; but by the persevering efforts of Mr. Pemberton, the above very satisfactory results have been attained, and at a very moderate cost.

demarcation, will be divided off by a defined natural object if possible, and transferred for survey. On the whole, the prospects for Season 1858-59 are very promising.

70. Mr. R. A. Smith has well earned the position of senior Assistant. He is in every respect an efficient and zealous Officer. Mr. J. R. Pringle is also very assiduous in the discharge of his duties, and gives much satisfaction. The last promotion of these Assistants, was 1st January 1856. Messrs Daviot and Brownfield, are both promising and well conducted Sub Assistants, meriting notice for the progress they have made.

71. Mr. W. H. Beatson, Sub-Assistant of 2nd Class, I found it necessary to remove from this survey, as he did not work harmoniously and gave much trouble. He was consequently transferred from the 13th December last to the 3rd Division at Dacca, to fill a vacancy on that establishment.

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1st or Northern Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>62. The documents furnished by this Surveyor are marginally cited; and I am happy to state, there appears to be a decided improvement on the maps of the previous season. The main Circuit or Block Maps on the one inch scale, are very creditable Records, especially those executed by the Senior Assistant Surveyor Mr. R. A. Smith, with whose labors I am much pleased, and who has worked entirely to the satisfaction of his immediate superior. Duplicates of these valuable maps have been made and forwarded through this office substantially mounted, to the Collector of the District, and it is to be hoped they will be cared for accordingly.</p>		
		<p>63. The congregated village plan sheets have been got up in a most complete manner, and have afforded me much satisfaction. My thanks have been rendered to Mr. Pemberton for the admirable manner in which all the above Records have been lodged in this office by his well trained establishment.</p> <p>64. The principal and secondary triangulation of the Assam longitudinal series G. I. Survey, traverses the Northern circuits of the season's survey; and a due connection has been effected with no less than 13 principal, 14 secondary, and 20 minor Stations and the co-ordinate distances calculated and recorded on the maps. The following statement shows the comparison of the differences of the direct distances between the data derived from the two operations. In two or three instances, the error per mile is larger than usual, and in excess of that of the previous season. The sides which show these discrepancies, have the Te-sia River intervening, which may possibly account for the increased differences. The system adopted by the Surveyor is much to be commended, and he appears to have left nothing undone, to check</p>		

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the accumulation of error. The actual value of his work is thus stamped beyond all doubt and uncertainty.

Names of G. T. Stations.	By G. T. Sur- vey.		By Revenue Survey.		Error per Mile.
	Fect.	Fect.	Fect.	Fect.	
1. Khakrabari to Chitabadi ..	55,979.28	53,993.68	19.60	1.36	
2. Chitabadi to Mekhigiri ..	51,379.63	51,003.42	283.74	28.90	
3. Khakrabari to Bahapura ..	53,449.44	53,601.24	151.30	14.95	
4. Chitabadi to Bahapura ..	57,520.32	57,616.02	95.70	8.77	
5. Bahapura to Mekhigiri ..	49,379.20	49,667.64	89.44	9.40	
6. Mekhigiri to Joges Bar ..	57,154.90	57,408.12	252.12	23.19	
7. Mekhigiri to Kachibaree ..	59,727.36	59,935.28	207.90	18.31	
8. Bahapura to Chaprai ..	57,678.72	57,768.48	89.76	8.20	
9. Chaprai to Soils Naobadi ..	48,634.76	48,834.72	200.94	21.69	
10. Soils Naobadi to Rungpore ..	58,571.80	58,571.80	0	0	
11. Kachibaree to Gahil Wabadi ..	53,571.80	53,846.78	274.98	13.22	
12. Gohbarce to Ahungaid ..	61,863.80	61,968.68	104.88	15.98	
13. Ahungaid to Parub-Chag ..	56,703.40	56,865.70	162.30	14.90	
14. Parub-Chag to Gohbarce ..	56,703.40	56,777.16	73.76	7.14	
Total	7,84,441.70	7,86,260.64	1,818.94	Average rate 12.22	

65. The demarcations in advance of the survey, appear to have been admirably carried out in this Division, and to have left nothing to wish for. The disputes on the Bootan Frontier alluded to by the Surveyor in the following extract of his Report, are no doubt, exceptional cases, and allowances must be made for them. As a general rule, the admission of boundary disputes after survey, is no doubt highly objectionable, and has been complained of with much force and justice on other surveys. The Surveyor also remarks on the local difficulties and obstructions met with during the course of survey, as well as regarding the extent of the District remaining for survey.

"Para: 14. The District of Rungpore will be completed during the present season; the unfinished portion is situated to the extreme north, and is bounded by Kooch Behar, Bootan, Darjeeling, Purneah, and Dinagepore; it consists of the following Pergunnahs, viz.: Bykuntpore, Kazerhat, Ambareeillaka, Darjeeling, and Bodah of Rungpore, which contain 370 villages and an approximate area of 1,100 square miles. As I shall only work with two camps during the present season, I do not anticipate that this portion will be completed in less than 4 months from the 1st December."

1st or Northern Division.—(Concluded.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>" Para. 15. The only obstruction I met with last season, was from non-attendance ; this was considerable though not to be compared with that of former seasons, especially that of 1856-57 ; the character of the people in this part of the District is the same as I observed in a more southerly direction, that is notoriously stupid, stubborn, and morose, which, joined to apathy, form an amalgamation not easily contended against, and sufficient to drive a person anxious to progress out of his senses. The proprietors in the present instance had no doubt heard of a few fines I had inflicted in 1856-57 and had taken warning."</p> <p>" Para. 16. The demarcations of this District were completed in Season 1856-57, and all the Thakbust Papers with a few exceptions, were made over to me in November last ; the disputes on the Kooch Behar boundary have caused considerable trouble and vexatious annoyance, as even near the close of the past season, three or four of them were undecided, and at the beginning of this month when the Maps and Registers were all completed, I received revised Thakbust Maps of two Villages, the boundaries of which had been altered on an appeal by the Kooch Behar people to Colonel Jenkins, Governor General's Agent North Eastern Frontier ; two other cases have also been appealed to that Officer, and are now pending in his Court ; surely appeals of this nature ought to be limited to a reasonable time, or in cases of disputes on a foreign boundary, especially when Survey Operations are in progress on it, ought to be attended to before any others ; but this does not appear to have been the case, and my office has experienced much trouble in consequence."</p>		

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2nd or Southern Division.

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
Major R. Smyth, Artillery, Revenue Surveyor, 21st November 1837...	Furlough to Europe on Medical Certificate under new Rules, 10th October 1857. Resigned the Service from the 20th May 1858.	72. This establishment has labored under considerable disadvantages during the season under review; first and foremost in losing the valuable and experienced services of its late Superintending Officer, Major R. Smyth, who for 20 years was actively employed in the Department, and whose thorough knowledge of his business, most amiable disposition, and indefatigable exertions, at all times and seasons and in all places, rendered his labors of the highest possible value to the department, as well as to the Government he so faithfully served. The expectation or hope given in my last Report as to the return to India of this excellent Officer, has not, I much regret to say, been realized; as by Major Smyth's resignation of the service in May last, his connection with the department has terminated; though the results of his labors will long live in this office, an honorable monument to his ability and industry.	87. Continuation of the survey of the District of Dinagopore, with the Pergunnahs of— Santosh. Khurael. Futtehgungpore. 88. The prospect is only fair; with such very small village circuits, it is impossible to derive large areas.	89. The health of the Officiating Surveyor Captain Row, compelled him to seek a change; and he proceeded to Europe on Furlough under the new Rules for 15 months, by G. O. No. 70, dated the 17th January 1859. 90. No Officer being available in Bengal to take Captain Row's place, an Assistant Surveyor of departmental experience from the Punjab Surveys Captain James L. Sherwill, was recommended to be brought down to fill the officiating appointment, and he was nominated by orders of the Government of India No. 5456, dated the 23rd December last, and by the Bengal Government, No. 124, dated the 3rd January last, and took charge from Captain Row on the 16th December last. Captain James Sherwill has learnt his duties during the last two years in a good school in the Derajat, and being an accomplished Drafter, man as well as an energetic and excellent Officer in every respect, will be sure to do justice to the work in Bengal.
Captain W. S. Row, 33rd Regt. N. I., Officiating Revenue Surveyor ... <i>Assistant.</i>	In executive charge.	73. The second drawback to due and proper progress, was the circumstance of having to break fresh ground in a new District at a considerable distance from the old work, and the unwillingness of many of the qualified Native Surveyors to travel across the Ganges, the great changes in the European agency of the establishment as detailed in my last Report, and the ill-health of the Officiating Surveyor Captain Row, which prevented him from supervising the work with all that energy which is so necessary in all Field operations, likewise all tended to a small out-turn, which was fully anticipated in my last Report.		
Mr. W. Ivey, 1st December 1849 ... <i>Sub-Assistant.</i>	Assisting.			
Mr. J. Vaughan, 30th December 1854 ...	Assisting.			
Mr. A. Hyde, 19th February 1856	Ditto.			
Mr. G. Hyde, 1st January 1857, and 35 Native Surveyors ...	Ditto.	74. The establishment left Burdwan on the 10th November 1857, for Dinagopore via Rampore Bauleah, where the Officiating Surveyor, his Assistants and Native Surveyors, assembled about the 1st December following, to complete their arrangements, preparatory to proceeding into the interior of the District to commence the field operations, which were somewhat retarded by the apprehension of that part of the country being disturbed; and it was not until the Julpigoree and Dacca mutineers had been disposed of, that the Officiating		91. The Bengal Government will not fail to observe, that it is quite a fortuitous circumstance, thus being able to find a qualified

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2nd or Southern Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>Surveyor considered it safe or practicable to detach all his parties to begin the work.</p> <p>75. The tract of country prepared for survey by the Civil Department, lies in the centre of the Dinagopore District on its southern boundary adjoining the Maldah and Rajshahce Districts. The Pergunahs Poostul and Kordoho, subtending both sides of the main road from the Ganges to Dinagopore and Darjeeling, and Pergunahs Chowrah, Jehangeerpore, and Moseedah to the eastward of the former, embracing an area of 532 square miles, have been effected. This area contains 1,080 villages or 1,077 circuits as separately demarcated, averaging only 316 acres each. The origin or point of departure for all the calculations of the survey, being Station A of Fergunnah Poostul, on the high road to Darjeeling.</p>		<p>Officer ready made for the work. I would, however, beg strongly to represent the pressing necessity of completing the strength of these establishments as regards Covenanted Assistants. Frequent representations have been made about this, and it is most desirable to have two young Officers possessing the necessary aptitude and qualifications, appointed to the two Bengal Surveyors, which are under the charge of Covenanted Surveyors. Unless this is done, the efficiency of the department cannot be maintained, and a qualified Officer, when required on an emergency to fill a vacancy, cannot be found.</p>
		<p>76. It would have been more satisfactory in a professional point of view, if the survey had been made to commence from the south-west corner of the District on the Mahanuddy River at the junction of the Purneah and Maldah Districts, but in consequence of the demarcations previously prepared, the Officiating Surveyor had no alternative. The work will now be carried on eastward along the Rajshahce, Bogra, and Rungpoor Districts, so as to admit of proper connection with the work now performed. It is to be regretted that the western part of the District along the Purneah Frontier, will thus be left to the last, when this tract was the most urgently required for geographical purposes,—that immediate part of the District having been traversed by the Calcutta meridional series of triangulation many years ago.</p>		<p>92. The casualties in the department during the last two years, have been very heavy indeed; and great difficulty has been experienced in finding suitable candidates whose services could be spared.</p>
		<p>77. It appears to me necessary, that in starting the demarcations of a new District, this department should first be consulted by the Revenue Officers or Civil Superintendents of Survey; and I would solicit the orders of Government on this head.</p>		<p>93. In consequence of the retirement from the service of Major Smyth, by G. O. No. 1163, dated the 5th August 1868, the permanent appointment in this Division became vacant; and by G. O. No. 2802 of the 15th October last,</p>

Captain Walter S. Sherwill, Revenue Surveyor of the 4th Division on Deputation as Boundary Commissioner, was transferred to the 2nd Division, in order to create a vacancy in the former establishment, in which Captain Gastrell had been officiating only for so many years.

94. The conduct of the Assistants has been very praiseworthy. Mr. W. Ivey, the Senior Assistant, continues to be spoken of most favorably; he is zealous and efficient both in the field and office. Mr. J. Vaughan has likewise worked well and to the satisfaction of his superior; both these Assistants were promoted last season.

95. Mr. A. Hyde has been very favorably noticed, and recommended for promotion to the next grade from Rupees 125 to 150, which I have deemed it necessary to sanction from the 1st January last subject to the usual confirmation. Mr. A. Hyde only requires a little more experience to make him a valuable Assistant.

96. With a view of reinforcing this party as much as possible, I have recently transferred another Sub-Assistant, 3rd class, Mr. W. Sinclair, from the Nagpore Survey, which I hope may prove beneficial.

97. The Native Establishment has suffered much from sickness, being unaccustomed to this part of the country; but I hope they are now better inured to the climate, and will be able to finish the present season's field work without much difficulty.

78. The cost of these operations amounts to Rupees 31,225-6-8, including the sum of Rupees 460 for the calculation of the internal meahls on the demarcation maps of the civil branch. This heavy expenditure thrown on the reduced area accomplished viz. 532 square miles gives the very large rate per square mile of Rupees 57-12-4; but on the village circuit average, the rate is only Rupees 28-9-0, owing to the very large proportion of villages to the total area. The increase in the mileage rate over the previous season, is very considerable, as will be seen from the following comparative Statement:—

SEASONS.	Number of Main Circuits.	Number of Tri-verse Circuits.	Average size of Circuits.	Area surveyed in Square Miles.	Cost.	Average rate per Square Mile.	
						Rs. As. P.	Rs. As. P.
1856-57	3	1002	672	1097-81	86,002 13 0	32 12 7	35 8 7
1857-58	3	1077	316	532-54	30,765 6 8	57 12 4	23 9 0
Difference	0	+	356	-565-27	-5,237 6 4	+24 15 9	-6 15 7

79. The contrast is still greater on the results of the prior season of 1855-56, when the mileage rate was 21-11-6. In that season, there was an ample field for survey, great vigor and a full and most efficient establishment, consequently great success. In the following year of 1856-57, the means were equal, but the opportunity was wanting, as the District was brought to a close with an out-turn of 1,097 square miles only, against 1,578 square miles of the Season 1855-56. In the Season 1857-58 under review, the means and opportunity were both defective; every thing was against a full return, and the rate has arisen to its very high figure in consequence. It is fortunately so seldom that we have these half Returns or bad seasons in the Revenue Surveys, that we ought to be able to allow for one occasionally as in the present instance.

80. Captain Row had no previous experience in the management of a large establishment, and his health prevented him from making any great exertion. Immediately on taking the field, he was obliged to re-

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2nd or Southern Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>pair to the Sudder Station of Rampore Bauleah for medical advice, whereby the best and most important month was lost to him; and in the recess, owing to the impossibility of finding accommodation for all the Assistants, half the establishment was obliged to locate at Bogwanga, which diminished greatly his capability of administering the control and check over the office work. The Officiating Surveyor, I believe, did his best; but from the above causes, his tenure of the charge of a survey has not been successful.</p>		<p>98. The question of recess quarters for this party is a difficult one; there is no sort of accommodation at Dinagopore, Rampoor Bauleah, or any of the surrounding Stations. For this and other cogent reasons, I believe it to be highly desirable for the Officiating Surveyor to repair to Darjeeling, where he will be able to find plenty of house room for himself, office and Assistants, and where he will be able to work with more vigor and effect than in the plains, and also return to his work in the following season, with renewed health and strength. Arrangements have therefore accordingly been made.</p>
		<p>81. The Maps and Records to the extent noted marginally, have been lodged in this office. Captain Row having applied for leave, and obtained a medical certificate to Europe, personally delivered these into my hands on the eve of his departure on the 19th January last. The one inch block or main Circuit Maps three in number, are very well executed, in the usual style of this Division, as so successfully taught and enforced by Major Smyth. The topographical details in these Maps are exceedingly full and clear; whilst the Drawing and Printing leaves nothing to desire. Those executed by the Head Assistant Surveyor Mr. W. Ivey, are particularly good and creditable to that Assistant, whose qualifications as a Draftsman are of a high order.</p>		<p>99. Since the above was written, the following details as to the arrears of work remaining to be brought up in this survey, have been received from the Officiating Surveyor. It will be observed that important Records of even Season 1856-57 belonging to the Burdwan District, had not been completed and delivered by Captain Row during the whole of last recess.</p>
		<p>3 Main Circuits of Season 1857-58, scale 1 mile = 1 inch. 3 Ditto for the Collector. 1 Index to the Main Circuits, scale 4 miles = 1 inch. 1 Plan of the Civil Cantonnments of Rampoor Bauleah, scale 10 Chains = 1 inch. 2 Sketch Maps showing the boundary between the Maldah and Dinagopore Districts.</p>		
		<p>82. Owing however to the hurry of his departure, Captain Row, I regret to say, left his Records in a very incomplete and unfinished state. The duplicate of only two out of the three maps were completed, the remaining one being left to be entirely copied in this office. The congregated village plan sheets, computations, and Registers, are stated to be ready, but have not been lodged, as they were not bound. With so small an area surveyed, the mapping and calculations ought</p>		

to have been brought up, the more especially, as the Officiating Surveyor had long been aware of his intention to leave his post, and it is very embarrassing making over arrears to a successor, and hampering his movements with work which does not belong to him.

83. Captain Row's successor has been called on to report on the exact state in which all these arrears have been left. The Annual Report being very defective on many points.

84. The Revenue Survey Operations have been well based on several principal Stations of the Triangulation of the Calcutta Meridional Series, as shown in the following comparison of the direct distances, of the sides derived from the two Surveys, giving a ratio of error per mile, which may be pronounced to be very favorable. The two latter stations lie out of his own District, and to which several miles of indifferently cleared grass jungle had to be chained through, to effect a proper connection; the ratio on these, therefore, is not quite so good, but it is still very fair. The same series passing due North through the District, will afford ample connecting points for the remainder of the work.

Names of G. T. Stations.	From Revenue Survey.	From G. T. Survey.	Error of Revenue Survey.	Error per mile.
Charaidangah to Kishnapore ..	66,514.80	66,653.80	- 139.00	11.93
Kamardaugh to Kishnapore ..	50,028.60	50,138.50	- 109.84	11.06

85. The demarcations appear to be well provided in advance, and up to the 30th September last, 2,000 parcels of internal Estates of Dinagepore, and 9,030 of the same description of Burdwan District, had been calculated. These internal Estates are said to be very light in Dinagepore, the number effected comprising all that were found in the season's work.

86. Regarding the connection with the boundaries of the old Surveys of Maldah and Rajshahce, the Officiating Surveyor thus speaks—

" Para. 5th. The origin of the Dinagepore Survey is Station " A, on the high road to Darjeeling. The old surveyed boundary of Maldah and Rajshahce has been followed as near as possible. Along " the District of Rajshahce, the boundary assimilates very closely " with Mr. Pemberton's Survey; but adjoining Maldah, there is only

EXTRACT.

Para. 7, No. 31, dated 9th April 1859.

- " Both copies of Volumes 2 and
- " 3 of the Burdwan Registers containing Main Circuits Nos. 5, 6, 7,
- " 8, 9 and 10, had to have their
- " recorded areas corrected and
- " examined; and the local measurements converted into acres,
- " &c.
- " Three Volumes of Burdwan
- " Traverses, containing Main Circuits 1 to 10, had to be re-opened
- " and re-bound with their respective registers, and 10 sheets
- " re-copied.
- " Two copies each of alphabetical Index of Villages of Main
- " Circuits, Nos. 1, 2 and 3 of District Dinagepore of last season's
- " work, have to be made. Main
- " Circuit Traverses have to be
- " copied, and 2 Index Maps of
- " the season's work have to be
- " made, before the Chudder Maps
- " can be bound."
- " Registers of last season's
- " work, have the village names
- " inserted only."

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2nd or Southern Division.—(Concluded.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>" a general assimilation. I can only account for the differences from " the fact of the whole of this boundary running through an immense " tract of high grass jungle (which is very imperfectly shown on the " Pergunnah Maps of Maldah) without even rice fields by which it could " be defined. I conclude, therefore, that even the Village Authorities " themselves could not point out exactly the same boundary twice over, " and especially after a lapse of 10 years. Owing to this length of time " between the two surveys, only one of Mr. Pemberton's old stations " could be found and identified, and it is shown on No. 1 Main Circuit " Map. A small village lying between Maldah and Dinagore in No. " 3 Main Circuit, appears to have been overlooked by the Superinten- " dent's Ameens, and has therefore not been surveyed. The Superinten- " dent has been informed of it, and he has directed it to be demarcated " forthwith, and it will be surveyed as soon as it is reported ready, and " must then be placed on No. 3 Main Circuit Map, which must be re- " turned to Captain Sherwill for that purpose. To show the assim- " lation of boundary between Dinagore and the adjoining Districts of " Maldah and Rajshabee, a trace of both boundaries accompanies."</p>		

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3rd or Eastern Division.

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
N. T. Davey, Esq., Assistant Revenue Surveyor in charge, 18th March 1841	In executive charge of the Survey of the Dacca District.	100. As detailed in the last Report, this party broke ground in the Dacca District at the commencement of the Season 1857-58, under the Superintendence of Mr. N. T. Davey, who was transferred on the 2nd November 1857, from the Head Assistantship of the 2nd Division Survey, to succeed the late Mr. Wyatt, whose decease took place on the 8th December 1857, vide G. O. No. 317, dated 25th January 1858.	120. Continuation of the survey of the Dacca District, which is estimated to contain about 2,000 square miles more, and will occupy the current and the following seasons.	122. The following material changes have taken place in the personnel of this Establishment, during the past year.
Assistant.		101. The commencement of the field work was somewhat delayed by the mutiny of the Sepoys of the 73rd N. I. at Dacca, but by the 15th December 1857, the several Assistants were able to take up their detached positions in the interior of the District, and to prosecute their labors without interruption until the middle of May following, when the whole of the work prepared and demarcated for survey having been finished, the establishment was withdrawn into Dacca for recess duties.	121. The very small area prepared by the Civil Department, will only afford occupation to the Establishment for two-thirds of the current season. This is a severe disappointment to the Superintendent Officer, whose energy and ability leads him to aspire to an honorable rivalry with his brother Surveyors, as to the extent and cost of his work, both of which must suffer materially from the above cause.	123. Mr. C. S. Bell, the Head Assistant, has been transferred to the Pension Establishment on a Pension of Rupees 125 per mensem, after an uninterrupted service of nearly 32 years, by G. O. No. 9 dated 3rd January last.
Mr. G. S. Swiney, October 1841	Assisting.	102. The portion of the District which came under survey, is that lying immediately to the South of Mymensingh, and subtended by the Dellaserree River on the South and West, and the Lukhya River on the East; and includes all the District down to the City of Dacca, and as far as the great mart of Narainunge. This area is shown in the old Maps of Reynell as published by Tassin, as belonging in parts to the Districts of Dacca and Dacca Jellalpoore; the Bunssee River forming the common boundary. This latter District, however, is now merged into the Furreedpore District or Joint Magistracy, and consists merely of that portion lying on the right bank of the Ganges.	124. Mr. H. M. Smith, Senior Sub-Assistant, has been transferred to the Arracan Survey from the 1st January last, in order to meet a pressing demand on that survey for a Senior Assistant.	Mr. H. M. Smith left Dacca on the 14th December last, and joined at Akyab on the 6th January 1859.
Mr. J. K. Moran, July 1851	Ditto.	103. The large tract of dense jungle between the Lukhya and the Bunssee Rivers, which forms a continuation of the Muthopore jungle, passing down through the centre of the Mymensingh District, being proverbially insalubrious, the strength of the whole Establishment was concentrated on it during the early months of the cold season, and got out of hand in good time, by which the health of the Assistants employed, was well preserved, and the open or cultivated parts entered upon in March, and the season's operations were thus successfully and uninterruptedly brought to a close.	125. Mr. W. H. Beatson, Sub-Assistant of the 2nd Class, from the 1st Division, has been appointed to the 3rd Division, in the place of Mr. H. M. Smith; and joined on the 25th December last at Dacca.	
Mr. R. Barclay, 20th September 1856	Ditto.	104. During the above short field season of 5 months, a general area of 7,80,447 acres or 1,219 square miles was surveyed, com-		
Mr. G. C. Polst, October 1830, and 34 Native Surveyors...	Ditto.			

3rd or Eastern Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.																																
		<p>prising the very large number of 2,118 village circuits as separately demarcated, their average size being only 368 acres. This area is represented in 6 main circuits or blocks; the number of Pergunnahs or portions of Pergunnahs being so numerous, as to baffle all attempts to distinguish them on the maps, and these Pergunnahs are stated to be so cut up into detached pieces, as to make it most difficult to give any preponderating name to the circuit.</p> <p>105. The total expenditure for the season, has been Rs. 33,658-9-9 inclusive of the sum of Rs. 830-1-6 the cost of the calculation of the internal Estates on the Demarcation Maps of the Civil Department, and which shows a saving of Rs. 3,865-6-3 from the annual maximum allowance. This outlay on the area accomplished, yields an average rate of Rs. 26-14-9 per square mile, and Rs. 15-8-0 per village circuit. These results with those of the previous season bear the following comparison :—</p> <table border="1"> <thead> <tr> <th>Season.</th> <th>Number of Main Circuits.</th> <th>Number of Tri-verse Circuits.</th> <th>Average size of Tri-verse Cir-cuits.</th> <th>Area surveyed in Square Miles.</th> <th>Cost.</th> <th>Average rate per Square Mile.</th> <th>Average rate per Village Circuit.</th> </tr> </thead> <tbody> <tr> <td>1856-57</td> <td>7</td> <td>1,175</td> <td>567</td> <td>1,491.16</td> <td>Rs. 31,662 14 4</td> <td>23 3 10</td> <td>20 8 0</td> </tr> <tr> <td>1857-58</td> <td>8</td> <td>2,118</td> <td>368</td> <td>1,219.44</td> <td>32,828 8 3</td> <td>26 14 9</td> <td>15 8 0</td> </tr> <tr> <td>Difference</td> <td>-1</td> <td>+ 943</td> <td>- 199</td> <td>- 271.72</td> <td>-1,834 6 1</td> <td>+ 3 10 11</td> <td>-14 0 0</td> </tr> </tbody> </table> <p>106. The expenditure has been less by Rupees 1,834-6-1, but the mileage rate is in excess by 3-10-11. This is caused by the large area</p>	Season.	Number of Main Circuits.	Number of Tri-verse Circuits.	Average size of Tri-verse Cir-cuits.	Area surveyed in Square Miles.	Cost.	Average rate per Square Mile.	Average rate per Village Circuit.	1856-57	7	1,175	567	1,491.16	Rs. 31,662 14 4	23 3 10	20 8 0	1857-58	8	2,118	368	1,219.44	32,828 8 3	26 14 9	15 8 0	Difference	-1	+ 943	- 199	- 271.72	-1,834 6 1	+ 3 10 11	-14 0 0	<p>126. Of the other Assistants on this Establishment, a very favorable report has been made. Mr. G. S. Swiney having succeeded to the head position, has been zealous and industrious throughout the season. Mr. Swiney is an efficient Assistant except as to draftsmanship, and distinguishes himself in the field.</p> <p>127. Mr. J. K. Moran is a very efficient and intelligent Sub-Assistant, and a credit to the department in every way; very zealous, and promises to become as good a Draftsman and Printer as he is a Surveyor. He has been strongly recommended for promotion from 175 to 200 Rs. as Senior Sub-Assistant, for which a vacancy existed. I therefore had the greatest pleasure in nominating him to it from the 1st January last, subject to the usual confirmation.</p> <p>128. Mr. B. Barclay is a very promising and steady young Sub-Assistant, who has served upward of two years, and well earned his first step from 75 to 100 Rupees, which has been accorded to him from the same date.</p> <p>129. Mr. G. C. Bolst, Draftsman and Office Assistant, has given much satisfaction; his special</p>	
Season.	Number of Main Circuits.	Number of Tri-verse Circuits.	Average size of Tri-verse Cir-cuits.	Area surveyed in Square Miles.	Cost.	Average rate per Square Mile.	Average rate per Village Circuit.																													
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of the hills added to the previous season's work, which was dissimilar in its character. The other differences are much in favor of the season under review, and the present mileage rate bears a very close approximation to the mean average of the two prior Seasons of 1854-55 and 1855-56, which is Rs. 27-14-0 and the lowest of all the Mymensingh work. The rate of the circuits being likewise less by 2-9-8 when contrasted with the results of the same seasons.

107. Considering therefore the important fact, that Mr. Davey completed every village prepared for him by the Civil Department within the short season of 5 months, and viewing other difficulties with which he had to contend on first taking charge and commencing a new District, the above results are in my opinion, highly satisfactory and most creditable to the Assistant Surveyor's energy and good management. The ability and perseverance brought to bear on this survey by Mr. Davey, has afforded me much satisfaction; and I anticipate the best results from what I have seen of his first year's labors, which bear good promise of future success.

108. The one inch block Maps five in number, together with an Index Map, have been prepared and furnished in duplicate. These are fairly executed, and an improvement on those of the former season, they are clearly and distinctly drawn with the topography well filled in up to scale. This Division, however, has yet considerable leeway to bring up, before their maps equal those of other Division in point of beauty, execution, and finish. The maps of the present season are deficient in many respects; they have been reviewed in detail for the Assistant Surveyor's guidance; and will no doubt be satisfactorily completed during the ensuing recess.

109. The congregated Village Plan sheets are reported to have been prepared and bound up into convenient size Atlases, but they have not been rendered either to this office or to the Collector of the District, "pending the receipt of the adjusted village boundaries from the Civil Superintendent's Office."

110. This is a most serious and embarrassing question which I have unfortunately so frequently had occasion forcibly to represent to the Board of Revenue. It was prominently brought to notice in my last Annual Report, but the terrible evils which beset us in Mymensingh of never having done with the boundary dispute cases of altering Village Plans, one, two, and three years after survey or demarcation, seem likely to cling to us in Dacca, and to promise to prevent the best Surveyors from ever finishing their records. In fact, no survey can be of much permanent utility, if such a system is perpetuated.

111. Mr. Davey very justly again alludes to this subject in the following extract of his Annual Report, to which I would draw special attention: revision and correction of boundaries and areas

qualifications as a Draftsman, are valuable on this Establishment, where this special requirement is deficient. Mr. Bolst is recommended for promotion from 100 to 125 Rupees per mensem, for which he has been noted from the same date

130. Another apprentice must be posted to this party, as soon as a youth possessing the necessary qualifications can be found.

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3rd or Eastern Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>months and months after they have been mapped and computed, vitiates the whole work. Such alterations made after the professional returns have all been made up and are ready for lodgment, involve the credit and efficiency of the Department. The decisions now waiting for as above represented, must be of villages demarcated at least 18 months or 2 years ago; or in other words, the Civil Superintendent who commences the demarcations one year prior to survey, cannot get his season's work out of hand, until long after the professional survey has been made and concluded, and the records are ready for delivery.</p> <p>112. This Department is in no way responsible for the conduct of the Civil duties of the survey, but it is obviously my duty to point out in what way the professional operations suffer, and the cause of the non-delivery of the records into this Office; a point of the very first importance. I therefore trust that as the Board's letter, No. 62, dated the 1st February last, to the Civil Superintendent of this Division, has not improved our position; other and more effective measures may be taken to secure the original first object of these operations as so plainly defined and insisted on in Mr. C. H. Inshington's instructions, viz. <i>adjusted boundaries ahead of the survey</i>.</p> <p>113. Heavy arrears still exist in the work of the Mymensing District, and the professional survey records remain incomplete, for want of the proper adjudication of boundary disputes. The Village Plans have to a large extent been erased and altered, and will be yet more so, whilst no approximation can be arrived at, as regards the areas of Pergunnahs or of the entire District.</p> <p>114. From the following extracts from the Assistant Surveyor's Report, it will be observed, that only a very small area has been prepared for survey during the current season, not more than about 750 square miles or two-third the out-turn of the past season. The area expected and which this Establishment would be able to do, is about 13 to 1,500 square miles, if the country is favorable; or 1,200 if the villages are small. During the past season, it has been shown that the Surveyor finished all that was made over to him with great ease, and there can be no doubt, that he would have got through more if it had been</p>		

ready. The very short allowance therefore now made over, is greatly to be regretted; the increased cost falling on this Department.

115. I can only suggest one remedy to prevent such a deplorable state of things, and that is, to increase the Civil Establishment to meet the absolute wants of this professional party.

EXTRACT.

" Para. 15th. The portion of District Dacca remaining for survey, I estimate to be about 2,000 square miles in area; and for the convenience of description, may be assumed to be in two distinct portions situated to the South and to the East of the portion of the District surveyed this season. The Southern Division extending to the Ganges River and abutting on District Furrudpoore, is about 1,400 square miles in area; and the Eastern division situated between the Lakhya and Megna Rivers, is about 600 square miles in area. The common boundary between these Divisions, is the Dalleserry River for about 9 miles from its junction with the Megna River to Naraingung. The demarcations of the Southern Division were commenced last December, but only about 750 square miles containing about 1,400 hulkahs, were prepared for survey; and my work for the ensuing season, must therefore be limited to two-thirds of the out-turn of the season under review. The remainder of the District for demarcation about 1,200 square miles in area, should be fully completed in all its details during the ensuing field season, to enable this Division to complete the survey and perfect the survey Records of District Dacca in Season 1859-60, and to commence a new District unembarrassed with arrears of any kind."

" Para. 18th. Owing to the constant changes in village boundaries and alterations in village names that were in progress throughout the recess, the completion of the General Maps was deferred to the end of the season, to obviate the necessity of making erasures on them; some few erasures have notwithstanding been unavoidable, and have been carefully made. It was only by a judicious delay in compiling and finishing these maps, that they have been saved from being disfigured and mutilated by corrections. The village sheet Plans, the completion of which could not be kept in abeyance without bringing the work in my office to a stand, and accumulating arrears of office work, have, however, been subjected to excessive erasures by the constantly recurring alterations made by the Superintendent; and that the maps are still clear and intelligible Records, only indicates the care with which the work of amendment has been effected. I have done my best to guard against the necessity of making erasures on my maps; every disputed boundary was retained on the sheet plans in pencil, till receipt of the adjusted boundary; but not with-

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3rd or Eastern Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>“ standing the precaution, a hundred village boundaries have been altered during the recess, and just as I am about commencing on another season's field work, the Superintendent informs me, that about 50 more of these boundary corrections are likely to occur. These numerous corrections originating in the Superintendent's Office, the professional party cannot at any time anticipate or prevent, and cannot therefore be held responsible for the results; but I trust I may be pardoned the remark, that however free from blame the professional party may be, incomplete or defective demarcations entail additional labor on my establishment to counteract the positive disadvantage under which the survey work is carried on in this Division, without a commensurate return for the increased exertions.</p> <p>“ The practice of correcting village boundaries 6 months after survey and 12 or 18 months after demarcation, has so long prevailed in this Division Survey, that the evil seems to perpetuate itself. I would therefore entreat that a timely remedy be applied. The only sufficient remedy that occurs to me to suggest, is to require that all boundaries should be adjusted previous to survey as prescribed by the thakbust rules. Till the Superintendent is able to furnish adjusted boundaries for survey, the demarcations, I submit, must be considered incomplete, and the embarrassment to the professional party and endless alterations now complained of, must continue as an unavoidable necessity.”</p> <p>“ Para. 20th. The portion of the District surveyed this season, may be divided into two portions having distinguishing natural features peculiar to each, the Bunsee River forming the Divisional boundary. The portion to the East of the Bunsee River and extending to the Lukhya River, is about 900 square miles in area, and is embraced in the first four circuits of the season. This portion is considerably above the highest level of the adjacent Rivers, and is not subject to inundation in ordinary seasons. The soil consists principally of red kunkur containing iron are covered with alluvial deposit towards the Rivers and Khalls, and in its physical features is distinguished from the rest of the District, by</p>		

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" the small size of the streams by which it is watered. Hence the greater portion is an unproductive waste, covered with dense jungle, and infested with tigers, leopards, bears, &c. To the North, the cultivated spots are on the borders of the jungle, and small patches around the hamlets of the new settlers in the interior, but principally along the small streams. Further south in the direction of the city, cultivation is more extended, and large alluvial plains well cultivated and well populated villages, are to be met along the Lukhya, Booreegunga, and Dullessery Rivers.

" Para. 21st. The portion surveyed to the west of Bunsee River, is about 300 square miles in area, is embraced in circuits Nos. 5 and 6, and in one general map No. 5. This tract is a rich alluvial soil and is inundated during the rains, when the course of the rivers can be distinguished from the plains only by the belts of trees growing along their banks. The villages are built on artificial mounds of earth raised above the height of the inundation, and present the appearance of little islands during the rains.

" Para. 22nd. The Mehalwarry work of the season has been solely confined to bringing up the mehal computations of District Mymensing, and these arrears have been finally completed. Not a single village measured by *bona fide* Khusrak, has been received for comparison with the professional

area, and the ratio of error marginally shown, is the result of the comparison of areas computed from Thakbust Map with the areas by professional survey. 166 villages have been totally calculated, and 583 villages partially; the balance areas of mehals in the latter instance being deducted from the professional area. 55,210 chucks or detached portions of villages and mehals, have been calculated, during the season, at a cost of Rupees 830-1-6 or nearly 3 pie chuck. It must, however, be noticed, that besides the fixed establishment of mehal computers, every office hand available from other duties was engaged on these calculations; and for which assistance, by no means inconsiderable, allowance has not been made. The above estimate does not therefore fairly represent the actual cost of the mehal computations. The arrears of District Mymensing have fully occupied the mehal computers during the season, and it was not till the 1st December 1858 that the computations of District Iacca were commenced. If my office is early and sufficiently supplied with the original thakbust for computation, I hope to be enabled to prevent the accumulation of any arrears in the Mehalwarry office, and to furnish the Superintendent with areas in sufficient time for his Registers.

Percentage of Error	Dis. C. 4
Greatest error in excess	6 13 16
Ditto ditto in defect	4 19 12
Least error in excess	1 12 4
Ditto ditto in defect	1 16 12

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3rd or Eastern Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>“ Para. 23rd. The comparison of the surveyed boundary with the thakbust boundary, has been satisfactory. The inflections and sinuities of the boundaries have been minutely compared and assimilated, and where discrepancies were found, in about 20 instances, the boundaries were re-examined in the field by the Superintendent's establishment. In most of these cases of discrepant boundaries, the boundary on Thakbust Map, was pronounced correct by the Superintendent. The want of boundary marks in the field, and the interlaced boundaries of detached lands and m-hals in some villages, no doubt often led the professional parties wrong. The em-barrassment and delay to my work, for want of well defined boundaries in the field, were duly represented to the Superintendent, and elicited a promise from him, that the marks would be more carefully renewed and secured in the field for the ensuing season.</p> <p>116. In addition to the above, the following confirmatory evidence of the pressing necessity there is for strong remedial measures, has just reached me; the system described needs no further comment. The correspondence referred to is too long to be quoted here, but it will be submitted separately.</p> <p>“ 1st.—I have the honor to forward herewith correspondence as per margin, which the Civil Superintendent of this Division has requested me to place before you, with the view of pointing out the existing necessity for arrangements being at once made, for the speedy disposal of all disputes, and remedying the evils incidental to delay in settling boundaries.</p> <p>“ 2nd.—Copies of my letters to the Superintendent, in which matters foreign to the subject of the present reference have been also discussed by me, I forward merely to explain the frequent references to them in the Superintendent's correspondence. It will, however, be at once perceived, that my object in addressing Mr. Spencer, was not to open a discussion on the subjects I had previously represented in my</p>		

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" Annual Report, but to guard against the embarrassments I experienced
 " last season, and to prevent, if possible, an accumulation of arrears in
 " my office. I therefore asked to be furnished with the final bound-
 " ary corrections to be made in the past season's work on the 15th
 " proximo, and adjusted boundaries for the current season, in sufficient
 " time to enable me to complete my records this recess. The Super-
 " intendent in reply informs me, that he will be unable to furnish any
 " corrections on the 15th proximo, but that in June or July next, he
 " will supply me with corrections final so far as his office is concerned,
 " but which are open to revision by the Commissioner of Revenue.

" 3rd.—From the Superintendent's exposition of the proceedings
 " attendant on the final disposal of disputes, I infer that the delays in
 " adjusting boundaries do not occur in his office, but in the Appellate
 " Court; and that the crying evil of this Division, an infinity of
 " boundary corrections and amendments long after survey, can only
 " be remedied by obtaining a special rule from the Board, to facilitate
 " the disposal of appeals in survey cases before the Commissioner.
 " I would therefore beg to solicit your intervention in the matter,
 " and the early expression of your opinion to the Board, on the
 " suggestions of the Superintendent made in the final para. of his
 " letter No. 137, dated 14th February 1859, with the view of obtaining
 " a timely remedy to meet the increasing difficulties of the work in
 " this Division.

" 4th.—I would beg particularly to draw your attention to the
 " para. indicated on margin, in which the Superintendent proposes,
 " that the adjustment of the previous season's disputes should be deferred,
 " to enable him to complete his demarcations of the current season,
 " with adjusted boundaries. This proposition, if carried out, would
 " leave my past and present season's maps unfinished, till the completion
 " of the survey of the District, and would, I fear, perpetuate the
 " accumulating arrears in my office. It appears to me, that to defer
 " remedying known defects to a future day, is not the best way
 " of overcoming difficulties; for the longer the work of amendment
 " is deferred, the greater will be the arrears, and more obscure and
 " perplexing everything connected with them will become.

" 5th.—I feel the hardship of having a continued struggle through
 " difficulties to get my work accomplished, and of having my best
 " endeavours to shake off the incubus of an accumulating office
 " arrear, frustrated by protracted delays in adjusting boundaries, which
 " cannot, I presume, be unavoidable, since similar delays do not occur
 " in other Divisions. I trust, however, to your aid, to relieve me of the

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3rd or Eastern Division.—(Concluded.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>“embarrassments I have so often complained of, and shown to be alike “injurious to work, and vexatious and burdensome to my Establishment.”</p> <p>117. The contingent expenses for the feed and keep of Elephants, amount to Rupees 1,109-6-0; and for travelling allowance for the Assistant Surveyor when proceeding to join from Burdwan, Rupees 48; making a total expenditure of Rupees 1,157-6-0 only, in addition to the fixed sanctioned allowance, and which is more than covered by the saving.</p> <p>118. The great Trigonometrical Survey has not extended to this District, but every precaution has been taken, for a due connection hereafter with that operation, by building masonry platforms at Naraingunge, at Bhyrub Bazar, on the Northern Frontier of the District, at Dowltipore near the Juboona River, and several others on the Southern Frontier, are in course of erection. This is the more necessary in the vicinity of the great Rivers which must be triangulated. Many permanent objects have likewise been laid down, and the two Surveyors of Furreedpore and Dacca, are now triangulating the Ganges River in company, and taking up each others points and objects.</p> <p>119. The extraordinary and minute sub-division of this District into no less than 108 Pergunnahs and 63 Tuppahs, baffles all attempts to define them on the District or even the one inch block maps. Out of all these, only 5 or 6 Pergunnahs are said to have defined boundaries; the remainder are broken up into minute portions, and interlaced one within another in the utmost confusion. Portions of 70 Pergunnahs have been found in the small area surveyed, the season under review. The Sub-divisions shown on the maps, must therefore be arbitrary; and it will be therefore far better to adopt the revised adjustment of the boundaries, showing the Civil and Criminal jurisdictions.</p>		

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4th or Western Division.

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
<p>apt. in J. E. Gastrell, 13th Regiment Native Infantry, Revenue Surveyor, 13th January 1852</p>	<p>In executive charge of the Survey of the Jessore District and Soonderbuns.</p>	<p>131. This Establishment of the same strength as in previous season and noted in another column, left Berhampore for Jessore at the latter end of the month of December 1857 to take up the survey of the Southern portion of the District with its adjoining Soonderbun Lots. The Surveyor reports, that as the survey lay entirely in low swampy ground, interspersed with heavy jungle and khalls, he was necessitated to keep back his parties until the above period; for if he had moved them out earlier, the seeds of severe sickness would have been sown, whilst the Assistants were chaining over the brackish swamps, and wending their way amidst the thousands of creeks of that low central portion of the District, whilst the immense quantity of vegetable matter submerged during the rains, was decomposing under the rays of the sun. The result of this delay in taking the field proved highly favorable. All the men of the Establishment enjoyed wonderful health, considering the nature of the country they were in, and the hard labor they had to encounter. The few cases of fever that did occur, were checked at once by the free use of quinine, with which Captain Gastrell took good care to supply them.</p>	<p>151. Completion of the small portion remaining of the Jessore District, and the commencement of the Furreedpore District South of Ganges, in which an ample field has been prepared in advance. The probable out-turn is estimated at about 2,000 hulkas or demarcated Village Circuits, and from 1,200 to 1,300 square miles including the Ganges River. This will not complete the Furreedpore District in Season 1858-59.</p>	<p>152. The zeal and good service rendered by the Assistants both European and Native of this Establishment, deserve the highest praise.</p> <p>153. Mr. Robert Smart's merits and qualifications have frequently been prominently noticed. He is now recommended for promotion to Head Assistant on this survey from 250 to 300 Rupees per mensem from the 1st January last, to which he is richly entitled; and I have the greatest satisfaction and I have the greatest satisfaction in submitting the same for confirmation.</p>
<p>Assistant. r. C. Bradley, 13th } November 1838 } ... } r. R. Smart, 21st Sep- } tember 1846 } Sub-Assistants.</p>	<p>Ditto.</p>	<p>132. These necessary precautions enabled some of the party to remain out so late as the beginning of June, by which date most of the bands had returned to Berhampore and commenced recess duties.</p> <p>133. The operations embraced almost the whole of the Southern Pergunnahs of the District from the parallels of Kho'lnah, and lying between the Cobhaduck River on the West, and Mudhomuttie and Pangochee Rivers on the East, which divides Jessore from Furreedpore. The work extended to the South, as far as the great jungle of the Soonderbuns.</p>	<p>154. His brother Mr. A. Smart is likewise a most deserving and zealous Assistant, has given the full-st satisfaction, and is well deserving of the strong recommendation made in his favor of elevation to the next grade, from senior Sub-Assistant on 200 to Assistant Surveyor on Rupees 250 per mensem. Captain Gastrell thus expresses himself regarding these two excellent Assistants.</p> <p>"The Brothers Smart, are as good in office as in Field; ex-</p>	<p>154. His brother Mr. A. Smart is likewise a most deserving and zealous Assistant, has given the full-st satisfaction, and is well deserving of the strong recommendation made in his favor of elevation to the next grade, from senior Sub-Assistant on 200 to Assistant Surveyor on Rupees 250 per mensem. Captain Gastrell thus expresses himself regarding these two excellent Assistants.</p> <p>"The Brothers Smart, are as good in office as in Field; ex-</p>
<p>r. A. Smart, 3rd Dec- } ember 1847 } ... } r. H. W. Stevens, 4th } December 1856 } ... }</p>	<p>Ditto.</p>	<p>Ditto.</p>	<p>Ditto.</p>	<p>Ditto.</p>
<p>r. C. David, Office As- } sistant and Draftsman, } 1st September 1847, } ... }</p>	<p>Ditto.</p>	<p>Ditto.</p>	<p>Ditto.</p>	<p>Ditto.</p>
<p>d 33 Native Surveyors</p>	<p>Ditto.</p>	<p>Ditto.</p>	<p>Ditto.</p>	<p>Ditto.</p>

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>derbuns, having included portions of 40 Pergunnahs, the chief of which Main Circles, Nos. 12 to 31. are noted in the margin; many grants and Ranchunderpore. some few of the old allotments Nos. 214, 215, 216, 217, 218, 219, 221, 222, 223, 224, 225, Naloe. Madhodes English Footanpoor Khurores. Tokimpore Agroolias Rangata.</p> <p>134. Some idea of the nature of the ground gone over may be gleaned from the description given of it by the Surveyor:—"Some of the intermediate boundaries" states Captain Gastrell, "of the small holdings or villages, were laid down from simple chain measurements by prismatic compass and chain; or by triangulation, where the swamp and jungle was impassable. The spongy morass though often sufficiently firm and buoyant to support a man to walk on—water however oozing through at every step and warning him not to remain too long, afforded no stability for instruments. This was especially the case between the Pussar and Cobbadak Rivers. To the East, the country becomes firmer and firmer; until reaching the Ballasur, it is sandy and dry comparatively speaking." The difficult nature of the country however is not to be understood, without an inspection of the maps which I believe exhibit as intricate and complicated ground as was ever faithfully laid down by a Surveyor; and when it is remembered that the thousands of nullahs and creeks met with are all tidal and impassable at certain periods of every day, the obstruction to fair progress may be readily acknowledged.</p> <p>135. The total area accomplished, is 6,70,838 acres equal to 1,048 square miles, containing 1,313 villages in 1,055 separate circuits as demarcated; giving an average of 635 acres each circuit. The expen-</p>		<p>"cellent Draftsmen and Printers, "ready and trusty calculators and observers;" when this is added to the most upright and correct personal demeanour and cheerful dispositions, greater praise could not well be bestowed.</p> <p>155. Mr. C. Bradley, likewise an Assistant Surveyor on this Establishment, is well spoken of for general care and attention to his duty, during an unbroken service of 30 years.</p> <p>156. Mr. Henry Stevens (Junior) has done excellent service, having successfully contended against the worst part of the Soonderbuns for the entire season. He has given great satisfaction to his immediate superior, and promises well for the future. This Sub-Assistant was promoted to the higher grade on Rupees 150 from the 1st October last.</p> <p>157. Another promising Sub-Assistant Mr. W. Stevens, I regret to report, tendered his resignation; which under the circumstances of his being under a Bond to serve three years, was refused; whereon the Sub-Assistant ab-</p>

diture has been Rs. 36,011-3-0, inclusive of Rs. 644-8-3, the cost of calculating the areas of the internal Estates on the demarcation maps. Deducting this sum, the average mileage rate comes to Rs. 33-11-10, and per Village circuit to Rs. 33-8-4.

136. These results when compared with those of the former season stand as follows:—

SEASONS.	Number of Main Circuits.	Number of Tri-verse Circuits.	Average Size of Tri-verse Circuits, in square miles.	Area surveyed in square miles.	Cost.	Average rate per square mile.	Average rate per Village Circuit.
1856-57 ..	8	2059	459	1,668-92	Rs. As. P. 36,319 13 11½	22 1 1	17 14 1
1867-58 ..	9	1055	685	1,048-18	35,366 10 9	33 11 10	33 8 4
Difference ..	+ 1	-1004	+ 176	- 620-14	-1,453 3 2½	+11 10 9	+15 10 3

137. These differences taken *per se*, do not show in favor of the last season; the area surveyed being considerably less, which has brought up the mileage rate to a much higher figure; but the nature of the country traversed has been very different, and when the immense amount of topographical details met with, and the very intricate ground measured is taken into consideration, the severest task which has tried the Establishment to the utmost, will be found to lie in the past season. The area actually achieved therefore which includes all the Soonderbun Grants, must be viewed as an excellent out-turn, highly creditable to the indefatigable exertions of Captain Gastrell and his excellent Assistants, who have performed their duty amidst the tidal creeks and brackish swamps of the Soonderbuns, to my entire satisfaction.

138. The area executed and rate attained for the prior Season of 1856-57 was peculiarly favorable; and the rate, the lowest of all the Bengal Surveys as stated in the last report. The present rate when taken with several other seasons, will give a fair mean average; with the excessive cost of the 2nd Division, the general average for Bengal for the current season, is only slightly in excess of the usual mean rate.

conded on the 14th October last. Captain Gastrell reports of him:—"Clever and shrewd; he might, "had he been blessed with any "steadiness of purpose, have "proved a good Government servant; but his changeable and "roaming disposition and dislike "of being checked, backed by a "strong self-will, led him to "break his agreement and seek "his fortune elsewhere."

158. This young man deserted, for the ostensible object of joining one of Messrs. Jardine, Skinner's Silk Factories; but those gentlemen, when they heard of the circumstances under which the Sub-Assistant had left the Department, in the most honorable manner declined to have any thing to do with him; remarking, that it was as essential for individuals to hold faith with the Government, as with private parties. This golden rule is one which ought to be impressed on the minds of all, and I entertain the hope, that the result of Mr. W. Stevens' case, will have a good effect.

159. With the exertions of the Native Establishment, Captain Gastrell is more than usually well pleased; they worked well and readily, in a part of the country they had always looked on with so much dread. The up-country men especially, had great fear of the salt-water localities; but they now find that the country increases in salubrity to the East, and is also higher and more sandy

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>139. In the Board's letter No. 30 dated the 26th June 1857, I was desired to issue the necessary instructions to the Surveyor of this Division, to include all the Soonderbun Lots adjoining the Zemindary lands of the Jessore District, assuming the boundary as laid down by the late Captain Hodges, Surveyor of the Soonderbuns, from Pranpore eastwards, as the bases of the boundary lines between Jessore and the Soonderbun allotments and forest. How this difficult duty has been accomplished, will best be understood from the following extract of the Surveyor's Report.</p> <p>"Para. 15th. On receipt of the Field Books of Hodges' Survey, I proceeded to define and lay down his boundary on our maps.</p> <p>"I generally found little difficulty in so doing, being able to identify on them, most of the khalls shown by him on his maps on, or near boundary. On the maps of the 4 inch scale, I have inserted numerous chain distances along the line of boundary, to render marking it off and laying it down, an easy and certain matter at any future time. At the same time, I would strongly advise, that the so-called Hodges' boundary be cancelled from the Seepsah Aga to the Bhuddur River, and that the Rivers Heria Gong and Bhuddur be taken as boundary between Jessore and Soonderbuns, instead of as at present, a line running through the resumed Villages on their banks; placing one portion of each such village in the Jessore District, and the other in the Soonderbuns. To the South on the Cubbaduk, the eastern boundary of the Village of Gobrah, requires to be marked in a few places by pukba pillars. My survey stations were carefully preserved there for that purpose, and I have entered the distances and off sets to boundary on the map furnished by Mr. Reilly, Soonderbuns Commissioner. All he has to do there-for, if any point be disputed between the point I have demarcated and fixed in the field, is to make the chain measurements entered by me on the plan, and erect pillars on the ground if he pleases.</p> <p>"A line boundary was laid down by me, cutting off a certain area for the Village of Pankhallee on the Pussar River from lot No. 222.</p> <p>"The point from which my line boundary started being objected</p>		and less muddy generally. Several of the most deserving have been raised trifling amounts in their salaries. The above increases of salaries, will of course be met out of the fixed annual grant.

"to by the Soonderbun's Commissioner; a wrong khall having been taken, another was settled at Kloolneah by Mr. Reilly the Commissioner himself. The new point of departure pointed out by him, was at once fixed on our maps, and the necessary data given to Mr. Smith Deputy Collector, to secure the end stations of the line.—On the 12th of May, Mr. Smith wrote me regarding this boundary as follows:—"Mr. Reilly was here a few days ago, and we have settled the point with Mr. Smart, who has also marked out on the map the lines dividing Pankhallee and Lakheekhola from Lot 222; and on my way up to Calcutta, I intend securing a few stations there." You will observe that there is a Survey station at either end of the line in question; my demarcation was therefore complete on plan and ground, and securing the stations by Mr. Smith, all that was left to be done; another line boundary had to be laid down for the same purpose for the Village of Lakheekhola to the West of the same Lot 222; here also the demarcation is complete, one end of the line being at the junction of a certain khall with the Bhuddur River, and the other at the junction of the Nowkhalee and Khalsiboonia khalls. The only portion of Jessore and Soonderbuns Forest boundary remaining for demarcation, is that immediately East of the "Cobbaduk" River, and from the Village of "Gobrah" the extreme southern point of the Jessore District, to the "Tooranne" or "Terawarreah" khalls, which forms the eastern boundary of the village of "Masidkooor." Here the jungle is now and has been for years, impenetrable; no attempt can be made to define this portion of boundary until it is again cleared. But from thence to the commencement of Hodges' boundary, I experienced no difficulty in laying down the boundaries from Morrison's Maps; I have also marked off all these boundaries on the thakbust Maps in the Superintendent's Office. No further difficulty exists or can be possibly experienced along the lines of boundary described in Hodges' Field books or delineated in Morrison's Maps, other than in the portion above alluded to. The work entrusted to me of defining the boundary, is therefore complete in every respect.

"Para. 16th. The Soonderbuns Surveyors not having made a satisfactory survey of certain cleared lots lying to the South of the Jessore District, I was directed to take up and survey as much of the clearings as I could do, without interfering with the progress of my more legitimate work the Jessore District Survey. With the exception of such lots and portions of lots as lay under impenetrable jungle, I completed the whole of those mentioned in Mr. Reilly's list, forwarded to me with your No. 61 of the 7th July 1857. The survey of these and the resumed Villages of the Jessore District, was arduous in the extreme; wading through mud and water, breaking

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>“ their way through null reefs and thorns, and devoured by leeches and insects during the day. Only to be attacked by swarms of musktoes and gnats at night. The men employed suffered excessively, but they did so without grumbling; and I have never seen men work better or more persistently, than those employed in this difficult, I may say, and I believe without exaggeration, most difficult part of the Soonderbuns; for no where is it so very low and swampy, as between the Cobbaduk and Pussur Rivers. Mr. Henry Stevens, Sub-Assistant Revenue Surveyor, here exerted himself to the utmost, and rendered excellent service to the survey, and was promoted accordingly; and Dhowtal Singh, Kittarat Pandé, Setaram, and Mahomed Oomur, were companions with their parties amongst the Native Surveyors. The second man was from station to station to observe his angles. Mr. H. Stevens suffered equally and showed the same determination. None escaped. By no means the least of their inconvenience was want of sweet water, where all was salt or very brackish; and I was heartily glad when I was able to draw off my parties from such a country, and report the work done. Here I would beg to remark, that had I been able to choose my own time which was impossible from many circumstances, and survey only during the cold weather months and before the spring tide set in, I could have done my work much more easily and with less danger to the men employed; and I would advise, that if it be necessary at any future time again to survey these Soonderbuns tracts, that no survey parties be kept out after the beginning of April. My men escaped sickness in a wonderful manner in the latter part of the season. Probably the constant succession of storms expeduced from 20th April to end of May, conducted in no small degree to clear the atmosphere and keep away sickness. But I should be sorry indeed to have to undertake the same survey at the same season again i. e. April and May.</p> <p>140. I fully concur with the Revenue Surveyor in his suggestion of adopting a well defined line of boundary, viz. the Hareagong and Bhuddur Rivers, in substitution of the old one laid down by Hooges;</p>		

merely a line running through the resumed Villages on the banks of those rivers. Certain parts of the boundary require to be marked with masonry pillars, and the paramount importance of this, is obvious. The Commissioner and the Deputy Collector of the Soonderbuns having been present on the spot at the time of survey, and having likewise received the full-st instructions and information, as well as clear and distinct maps of the localities, no future difficulty ought to be experienced, and I trust the service thus rendered to the Revenue Officers of the Soonderbuns, may be permanent.

141. It will be observed, that Captain Gastrell speaks of the unsatisfactory nature of some of the measurements effected by the Soonderbun Surveyors in the cleared lots lying to the South of the Jessore District. I have for many years past been familiar with some of the old plans of the grants executed by different Surveyors, and I must say, that nothing in the shape of plans professing to have been laid down by actual survey, could have been worse. The regular and systematic survey now made all along this District, as well as the 94-Pergunnabs, cannot be too highly appreciated; such trustworthy and excellent results could not have been achieved, except by competent Establishments, properly organised and equipped. Captain Gastrell and his Assistants, have well earned the thanks of the Board and Government for their successful labors, so perseveringly prosecuted under much exposure in the very worst description of ground.

142. The maps and Plans prepared and lodged in this Office, are specified in the margin. Duplicates for the Collector of the District, and an Atlas of the Plans of Grants for the Soonderbun Commissioner, have been supplied. These records are full of information, and have been executed in the same artistic and admirable style for which Captain Gastrell is reputed. The maps are fully equal if not in some measure superior to those of the previous season, which were so highly approved and spoken of in the last Report. The style of delineating the topographical and other details, is unexceptionable; and the value of the maps is greatly enhanced, by the numerous geographical notes which form a great addition to the information of a previously unknown country.

- 4 Main Circuit Maps of Season 1857-58 for the Deputy Surveyor General's Office, scale 1 mile.
- 1 Index Map of Season's work, scale 4 miles = 1 inch.
- 1 Map of the Station of Jessore, scale 8 inches = 1 mile.
- For the Collector of Jessore, 4 Main Circuit Maps as above, scale 1 mile = 1 inch.
- For the Commissioner of Soonderbuns, 1 Map of Soonderbun lots and resumed estates of Jessore District, situated West of the Pussur River, East of the Pussur River.
- 2 Alphabetical Indices of resumed estates, to accompany the above Maps for Commissioner of Soonderbuns.
- 3 Congregated Village plans, Jessore District, of Season 1857-58.
- 17 Volumes of Statistical and Traverse Tables.
- 2 Volumes Main Circuit Traverses.
- 1 Volume containing sheet areas of the Jessore District, from circuit 1 to 36 inclusive.

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>143. The sheets of the congregated Village plans formed into convenient size Atlases, are most superior documents; and although experience proves, that this mode of rendering them adds somewhat to the labor of mapping during the recess, owing to the great superiority in finish and detail required and now exhibited in comparison with the old separate Village Plan on the Register sheet of former years, yet for all local purposes whether Revenue or Engineering, the advantage is immense, and there is not a divided opinion on the subject. The principle is still of more importance, where Villages border on Rivers of any size, and when the ground on both sides requires to be seen at a glance.</p> <p>144. In the Main Circuit or Block Maps, which have been executed with so much beauty of finish, I regret to find that the attempt to show the intermixture of Pergunnahs by separate colors, has somewhat detracted from their general usefulness and clearness. So many colors and distinguishing letters or numbers are obliged to be introduced to represent the existing state of things, and the excessive interlacing of Pergunnahs or parcels of lands of other Districts, that even the professional enquirer is lost, and unable to comprehend the map before him. This evil as I have before observed, is daily becoming worse; in fact it may now be said to have cured itself. Captain Gastrell now reports, that no less than 62 Pergunnahs belonging to various Districts, as marginally cited, have come under survey during the present season. This together with the still worse state of things in Dacca, has necessitated all further attempts at depicting Pergunnah Sub-divisions at all on the one inch maps.</p> <p>145. The second Division was obliged to relinquish this practice in Burdwan; and in consequence, we have maps of the highest order, clear and intelligible to all. The Dacca and Furreedpore Districts must follow the example, leaving every village to be accounted for in the Registers and the large scale (20 chains to the inch) map, and which will be quite sufficient clue for the Revenue Authorities.</p>		

		<p>146. A great professional object will thus be obtained, of having all these valuable records uniform and intelligible to the most superficial seeker of information of the geography of the country. By surveying the country in blocks of certain number of villages, and calling each circuit by the name of the most prominent Pergunnah contained in it, or according to the best information obtained as to the original or chief Sub-divisions of the country, the Geographical Map is made up.</p> <p>147. An excellent plan of the Civil Station of Jessore has been made and rendered on a scale of 8 inches to the mile, which I hope soon to be able to lithograph.</p> <p>148. Unfortunately no stations of the G. T. Survey have been met with in this District, but the Surveyor has carefully taken up Indigo Factories and other conspicuous objects of a permanent character, and incorporated them with his main circuits; and from the minute description given of the points thus fixed, there will hereafter be no difficulty for obtaining data for comparison with the triangulation, whenever it may traverse this District. The connection with the Nuddea and Pubnah Surveys, has been most carefully attended to, as well as a due continuation in Furreedpore.</p> <p>149. The amount of contingent expenditure for the feed and keep of Elephants, is Rs. 861-1-9; and for boat-hire in the Soonderbuns and travelling allowance to Establishment, Rs. 328-1-3; making a total of Rupees 1,189-3-0.</p> <p>150. Captain Gastrell specially acknowledges the good assistance rendered him by Mr. A. T. Smith, Deputy Collector of the Soonderbuns, which facilitated his operations very much.</p>		
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NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
J. H. O'Donel, Esq., Revenue Surveyor, 1st December 1836	In executive charge of the Survey of the District of Akyab.	161. The field operations of this party, were resumed on the 16th November 1857 in the District of Akyab, and were continued until the 30th April following, and by the 15th May all the detail parties came in. 162. The work of the past season is in two portions. <i>First</i> .—That part of the District lying to the North of what had been before completed, including the hilly and mountainous country westward of the Koladyne River to Sugar Loaf Hill, adjoining the Chittagong District; and <i>Secondly</i> .—That portion East of the Koladyne River, and of the previous season's works in the vicinity of the old city of Arracan, and bounded by the Lemroo River on the East. This tract, with the exception of a few low isolated Hills, is almost entirely low land. 163. In the first portion, the Surveyor states that a small area of 192 square miles of the Chittagong District was unavoidably included; being entirely uninhabited, it was only after the topographical details of the triangles between the Koladyne and Myo Rivers were filled in, that the boundary could be determined. The dividing ranges, which form the water-shed of the streams flowing North into the Chittagong District and South into the Akyab District, also define the boundary common to both Districts. A better natural boundary could not be desired; the only objection is, that it approaches within 20 miles of the Koladyne Thannah, and the northern boundary is fully about 80 miles distant from the same Thannah. 164. The out-turn of the season's work gives 24 Keokships, portions of nine others, and 5 grants which have been surveyed according to the nature of the ground, in 4 main circuits sub-divided into 145 Villages and Keokship circuits, 4 River circuits, and 34 triangles. 165. A series of triangles was carried on along the Hills on both banks of the Koladyne River, taking up the connection from the previous work. After proceeding 40 miles North, the series turned South-west along the Chittagong Frontier, and was connected with another series on the Myo River, along which 12 triangles were formed to its source, and connected with Sugar Loaf Hill. 3 triangles of the Lembroo series were also laid down to complete the Hill portion in No. 9 circuit. 166. The difference deduced from the common side of these two series of triangles, is reported to be 15 links of a chain or 10 feet, which is very satisfactory looking to the very unfavorable nature of the country	183. Continuation of the survey of the Akyab District South and East of Main Circuit No. 9 of the past season, and of the mountainous country adjoining the Chittagong District on the Northern Frontier of the Akyab District.	184. The Establishment, reduced as it was by the desertion of two of its Sub-Assistants Messrs. A. Phillips, and E. Regnier, as well as by the invaliding of Mr. Porteous, as intimated in last Annual Report, has worked remarkably well, and to the entire satisfaction of the Superintending Surveyor. 185. Mr. J. Pickard Senior Sub-Assistant, has afforded great assistance and done an excellent season's work, having himself completed nearly 1000 square miles of most difficult country, including the triangulation from Koladyne Thannah to Sugar Loaf Hill. The maps of this Assistant are very neatly finished indeed; and his continued persevering exertions, are highly creditable to him. Mr. O'Donel gives it as his opinion, that Mr. Pickard is well qualified for the post of Senior Assistant Surveyor, for which, however, he has not yet served long enough in the department; his last promotion dates 20th May 1858. 186. Mr. G. Thompson having served a long apprenticeship in the junior grade, has been recommended for promotion from 75 to 100 Rupees, to which I have noted him
Mr. J. V. Thompson, 19th November 1847					Ditto.
Mr. R. Savage, 12th August 1857	Ditto.			
Mr. J. Bridge, 15th January 1858, and 29 Native Surveyors.	Ditto.			

and trying climate, added to the great paucity of inhabitants in these parts, which renders the prosecution of survey operations most difficult.

167. The area accomplished, is 9,29,661.96 acres or 1,452.60 square miles, inclusive of 39 square miles the areas of the Rivers. Of this total area, only 88½ square miles are under cultivation or garden lands; the balance 1,364, being hills, dense jungle, and waste lands.

168. The expenditure is Rupees 27,471-3-9, which gives a general average rate per square mile of Rupees 18-14-7, less by Rupees 5-5-3 than that of the preceding season: the area performed being 225 square miles in excess of the same, as will be seen by the following comparison. The amount short drawn or saved to Government, is Rupees 10,052-12-3 out of the fixed annual grant. This last item includes Rupees 412-15-4, retrenched by the Civil Auditor from Mr. Porteous' salary for the months of March, April, and July 1857, according to the provisions of Clause I. Para. 2 of the Despatch of the late Court of Directors in the Financial Department, No. 107 dated 5th December 1855, and which could not be included in the former years accounts. This large saving is caused chiefly by the difficulty of recruiting the Arracan Establishment to the full strength; constant secessions and vacancies are taking place; but I am very desirous of making the party as strong and efficient as possible, as it is only by such means we can hope for success in that climate. If small parties only are employed, there is no margin to allow for sickness and casualties.

SEASONS.	Number of Triangles	Area in Square Miles.	Total cost.	Average rate per Square Mile.
			Ra. As. P.	Ra. As. P.
1856-57	210	1,227.63	29,708 6 10	24 3 10
1857-58	183	1,452.60	27,471 3 9	18 14 7
Difference	27	+ 224.97	- 2,297 3 1	- 5 5 3

169. The rate per square mile has been gradually decreasing from Rupees 50-11-8 under Mr. Porteous' management in 1853-54; Rupees 33-15-2 in 1855-56; Rupees 24-3-10 in 1856-57 to its present reduced figure under Mr. O'Donel's excellent superintendence; and I have no doubt it will still improve as seasons pass on. Experience up to the present time justifies the expectation held out, that increased means and

from the 1st January last, subject to confirmation.

187. In order to strengthen this party, and to supply the vacancies alluded to above, Mr. H. M. Smith, Senior Sub-Assistant from the 3rd Division, has been transferred to the Arracan Survey. Mr. H. M. Smith is precisely adapted for work of the description met with in Arracan, and I trust he will be found useful.

188. As soon as a suitable young hand can be found, he will be sent to join this survey as a Sub-Assistant 4th Class.

189. Several Native Surveyors have been promoted, in consideration of their qualifications and good service rendered.

190. A few Mughls have been taken as pupils and instructed; they are apt Scholars, and it is desirable not to trust entirely to foreign aid.

5th or Arracan Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>an efficient establishment, would give a moderate rate; and if equal success is met with for a few more seasons, the mean average will be recorded at a very moderate figure.</p> <p>170. These results speak highly for Mr. O'Donel's energy and good management, with which I have always had the greatest reason to be pleased.</p> <p>171. The Khusrak measurements of the Keokships are reported to be generally very fair, as to the comparisons of the professional areas of the cultivated tracts. The interior detail Professional Survey, is most carefully and minutely laid down for this purpose.</p> <p>172. The Maps and Records prepared and lodged by this Surveyor, who is now one of the oldest and most experienced in the department, are marginally cited; and they are got up in his usual excellent style.</p> <p>Some of the maps executed by himself, and others by Mr. Pickard, Senior Sub-Assistant, are all that could be expected of such an inhospitable and difficult country, and highly creditable to both these Officers. Of course in a country so intricately covered with hills, most of which are far from the residence of man, and to a great extent inaccessible, many of the hill features must be sketched in; and this demands talent of the first order, if nature is to be faithfully portrayed. Mr. O'Donel's delineation on the whole of these masses of hills and ranges beyond ranges, is effective and intelligible, and he improves as he goes on. The maps are very valuable for all local purposes, and a very great addition to our geographical knowledge of that country.</p> <p>173. Duplicates of the general one inch block Maps, have been provided for the Local Authorities and despatched from this Office, after being carefully mounted on cloth and edged with ribbon for greater preservation.</p> <p>174. The congregated Village Plan sheets of all the Keokships or inhabited, open, and cultivated tracts, are equally well done; and this method of recording the results of the Village Survey on the larger scale</p>		

	<p>is peculiarly valuable for a District like Akyab, where the villages are scattered and the cultivation partial, and separate plans are not so easily connected together by the eye, or so readily understood.</p> <p>175. From the following extracts from the Revenue Surveyor's Report, it will be observed what difficulties he has to contend against, and how essential it is he should be supported and encouraged by every possible means. In a recent letter to the Board of Revenue No. 47 dated the 11th March last, I had occasion to bring this subject prominently to notice, and to urge the necessity of Mr. O'Donel's proposition to lay out a small sum annually in the purchase of presents in the shape of cloth, beads, salt, &c., to induce the hill people to render their assistance and friendly aid at the moment it is actually required for the prosecution of the survey. His suggestions comprise the following six points, which appeared to me highly judicious and necessary, and had my support accordingly:—</p> <p>" 1st.—In the absence of recognised Village authorities, payment be made to the Village hill chiefs for their attendance with the survey.</p> <p>" 2nd.—To change the mode of payment for cutting jungle in the wild hilly tracts, by giving provisions and small presents in lieu of money payments.</p> <p>" 3rd.—To give suitable presents to 4 hill chiefs who are heads of tribes, and who have much influence with the Village chiefs.</p> <p>" 4th.—To have 2 depots of provisions on the Leemroo and Koladyne, with 2 responsible Native Agents to sell provisions.</p> <p>" 5th.—That arrangements be made for guides and coolies to accompany 6 survey parties, 3 on the Leemroo and 3 on the Koladyne; with an escort of not less than 10 sepoy's with each detached party, a reserve of 20 sepoy's to remain at each of the depôts for provisions.</p> <p>" 6th.—To make presents to the Village hill chiefs and hill men to the value of Rupees 250 for the current season."</p> <p>176. The Board having authorized an outlay for such a purpose to the extent of about Rupees 250 annually in anticipation of the orders of Government, and the other requirements being referred to the Commissioner of the Division, I trust matters will proceed more smoothly in future.</p> <p>" Para. 9th. During the past season, it was with great difficulty that I could enforce the regular attendance of the Keoks and Roagongs; work which might have been easily completed by the end of April, was delayed till the 15th May, long after the rains had set in. The Arracan Revenue Rules 29 and 30, provide for the immediate and ready co-operation of the Village authorities. I have written to the Principal Assistant Commissioner to let all parties distinctly understand, that the above Rules will be enforced, and that in future they will be called upon for the payment of expenses incurred through their acts of obstruction."</p>			
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5th or Arracan Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>" Para. 11th. The most valuable and fertile part of the District in the vicinity of the old City of Arracan, was deserted by the inhabitants when it was taken by the Burmese in 1783. Considerable numbers of those who remained were then carried away as slaves to Ava. Forty-two years after in 1825, when the Fort and heights of the Capital were taken by a detachment of General Morrison's Army, great numbers were a second time carried away captives by the Burmese Army who retreated by the Talak Pass. Several Burmese families who had settled in the Province also returned to Ava. Vast tracts of land were thrown out of cultivation, and to this day remain waste. The surrounding country is destitute of inhabitants, and the traces of fruit trees and old temples mark the site of ruined villages. There are two roads from Mahamonee; the Jugunnath of Buddhism to the old City of Arracan, which is 40 miles distant from Akyab, and may be reached in 2 tides. On three sides, it is surrounded by low hills studded with temples, and open on the West. The Fort now in ruins is a triple, irregular, four-sided enclosure of stone and brick walls, one within the other, but without ditches. The detached hills are connected by curtains of stone walls now in a very dilapidated state. Besides these stone curtains, there are several high embankments from hill to hill, which have closed up the outlets of the numerous lakes round the city, and converted the plains on the East into extensive swamps. A few old families of respectability reside in the town; the actual number of inhabitants is now reduced to 3,212. The bazar is well supplied with vegetables, fruit, and fish."</p> <p>" Para. 12th. Several intelligent Mughls who reside in the town state, that cholera was first known in Arracan when General Morrison's Army was encamped at Pharabo on the West of the town in May 1825. The Army was utterly disabled for further effective service and perished by hundreds. Since then, Arracan sickness and death have become inseparable words. The medical gentlemen who investigated the causes of this fearful mortality, attribute it to the local peculiarities of the town and its immediate neighbourhood. The embankments raised as a protection from the sudden aggressions of the hill tribes, closed the natural drainage of the country. The following extract</p>		

" is applicable to all old Cities—' Great cities do not rise in unhealthy positions. In their fall they become unhealthy; for as they perish they grow filthy: neglected ruins, dirt and squalid want, produce ill-health.' The population was once 1,00,000; almost all the wells and tanks in the District are from 8 to 10 feet deep, and in general they are reservoirs of rain water only. During the dry season, there is a great loss from evaporation and use; they are then nearly dry; good drinking water becomes very scarce, and it is during the intense heat, which immediately precedes the commencement of the rainy season, that great sickness prevails. In January and February, the work near the old town was finished. None of my parties, I am glad to say, suffered from sickness."

" Para. 13th. The Map of Main Circuit No. 9, will give a fair idea of the cultivated low lands of the District. The banks of the Kola-dyne and Ieemroo Rivers, have been very extensively cleared and cultivated; but even in the most cultivated tracts, there are large unoccupied plains covered with low grass, which only require to be ploughed to yield abundant crops. The forests when reclaimed, are equally well suited for agricultural purposes. The ryot in Arracan is well clothed; has 3 meals a day, and compared with the Bengal ryot, is comparatively rich. The scanty population is quite unequal to the rapid cultivation of the waste lands; any plan which could be devised for inducing ryots from the densely populated Districts of Madras and Bengal to settle in Arracan, would be productive of great benefit to the revenue, which after a few years would show a steady, permanent increase. It would also afford a sure means of subsistence and profit to the cultivator. The extraordinary fertility of the District, if known, would attract settlers. The exports of grain to Europe for the two past seasons, is as follows:—

YEARS.	Number of Vessels.	Tonnage.	Total quantity of Rice and Paddy in maunds.	Total value of Grain in Rupees.
1856-57	97	56,047	16,86,224	29,58,378
1857-58	243	1,31,986	45,57,900	61,06,768

" All this heavy surplus produce is derived from the very small cultivated area of the District.

" Para. 14th. The work of the present season will include the tract of country South and East of Main Circuit No. 9, and the mountainous country adjoining the Chittagong boundary on the Northern Frontier of the District. Within this hilly tract, a few hill people only pay a

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5th or Arracan Division.—(Continued.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>nominal revenue in kind, when convenient to themselves; the chief occupation of the others, is plunder and robbery. Inaccessible to any kind of regular Government and without the restraints of law they live in incessant blood shedding feuds; the only recognised law is blood for blood. The heads of strangers are considered a great prize; no man can marry without possessing one of these trophies. Their reluctance to labor is very great: the profession of a robber is considered worthy of an honorable person. The chief object in their plundering expeditions is to obtain slaves, who are either carried further into the interior and sold to another tribe, or forced to cultivate for the benefit of their new masters. On the Koladyne, I met several people who had come from Chittagong to negotiate for the release of their relatives. Rupees 100 is generally demanded for each person."</p> <p>"Para. 15th. Such being the state of the hill country now under survey, and taking into consideration that there has been a reduction of Rupees 31-13-1 in the cost per square mile since Mr. Porteous was in charge, I would earnestly entreat your advocating the claims of my party for hill allowance. A similar allowance was sanctioned for the Mymensing party when employed in the Garrow Hills. The heavy expense incurred in travelling in the hills, the constant danger of attack from the unreclaimed savages who place no value on the lives of others, and the privations, fatigue, and exposure, so different from the ordinary survey work, will, I hope, plead in favor of my party, and I trust the same indulgence will be conceded to them. There is such a dread of these savages amongst the Clasheses and the Village people employed cutting jungle, that it is with the greatest difficulty I can prevent them from running away in numbers. It would in my opinion be economical, to secure the zealous co-operation of my Establishment; any small outlay would be repaid by reduced cost. I leave the subject for your kind consideration."</p> <p>"Para. 16th. The Koladyne River is navigable for large boats at high water up to the Village of Haloe. Between this village and the Koladyne Thannah, the navigation is impeded by rapids in 2 or 3 places. Above Haloe, the bed of the River becomes rocky, and small boats only can approach Taluk, where a Military Guard was</p>		

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placed last January. The villages on the banks of the River are chiefly inhabited by Araengs or hill robbers, who make incursions towards the villages on the Myo River and Chittagong District. There are also 7 villages of Araengs on the Pee Kheong. The best and once most frequented route from the Koladyne to the Chittagong District, is by the Khoogree Kheong or Khooshai Nullah Pass. Two high ranges of hills separate the Sangoo River or Sabuk Kheong from the Koladyne River, 10 miles distant from each other. It occupies 8 days to reach Bunderbain, the residence of the Pamong Rajah. After the third day's journey, another route strikes off from the Sabuk Kheong to Bhowaneepore Bazar on the Mahamoree River in Chukuree Thannah; the latter is much shorter, and the journey occupies 3 days more. Within the last year, the Araengs have closed the Khoogree Kheong Pass; a tolerable road may be opened between Chukuree Thannah and the Village of Haloe, where inland water communication is available; they are 40 miles distant from each other.

"Para. 17th. The work in the hills was delayed for nearly a month in February and March; the Roagongs and Village people refused to proceed westward of the Koladyne River across the Hills, without a Military Guard, from a dread of the Araengs who use fire arms. It is only since the late mutiny, that the sale of muskets and powder has been stopped. Before this, large quantities of muskets were purchased at Singapore at a dollar a piece, and sold to the hill people, who paid a highly remunerative profit to the dealers. A Military Guard of 19 Sepoys arrived at my camp on the 15th March last. This part of the country is uninhabited, and was never before explored. The routes were known only to the Araengs, a few of whom, after much persuasion, acted as guides. The hills as they approached the head-waters of the different streams, formed a succession of very rugged ascents and descents, most difficult of access. Having only one qualified Assistant, the crippled state of my Establishment of Assistants was a source of great anxiety to me. With all these delays and disadvantages, a larger area than I have anticipated has been finished. I have endeavoured to do my best, and I trust the work of the season will be considered satisfactory.

177. In his 15th para. the Surveyor strongly urges the claims of his European and Native Establishment, to some sort of extra allowance or batta whilst actually employed in the hills; as a trifling compensation for the expense they are put to, and for the fatigues and privations endured. Mr. O'Donel quotes a precedent of a similar allowance having been granted to the Mymensing party, when employed in the Garrow Hills. This is quite correct; and it is both usual and necessary for such an allowance to be given both in the Revenue and Trigonometrical Surveys, and the only reason why it

5th or Arracan Division.—(Concluded.)

NAME AND DATE OF APPOINTMENT.	On what duty employed during the year.	Progress and present state of the Work.	On what duty proposed to be employed during the ensuing year.	REMARKS.
		<p>has not hitherto been conceded to the European Assistants in Arracan, is because they are already in the enjoyment of a special allowance of Rupees 50 each per mensem for Arracan, as duly intimated in previous reports.</p> <p>178. In a subsequent Report in reply to my enquiry for further information, the Surveyor urges, that the Arracan or deputation allowance is one not specially intended or given to the Assistants and Natives of the survey, but that all Officers and all Establishments in the Province, enjoy it in common, to meet the heavy expense of food, servants' wages, and all other necessities. The duties of Surveyors are justly declared, very different to those of others who remain fixed at the station all the year round; and it is in consideration of the privations, fatigue, and exposure, in these Hilly Tracts of Arracan, so different from the ordinary survey work in a Regulation Province, that he lays claims for hill batta for those only who are actually so employed, and for the time they are engaged on such duty.</p> <p>179. The Native portion of the Establishment, are stated to be much alarmed at having to penetrate into these distant mountainous tracts, which are inhabited by many robber chiefs and their followers, who have been a terror to the neighbouring inhabitants of the Lower Hills, both in Akyab and Chittagong; and the Surveyor is most anxious to compensate in a small way, the members of his Establishment, for the peculiarly harassing duty they are called on to perform, so that he may have some hope of making fair progress in such a country.</p> <p>180. The scale of remuneration proposed for the different grades, is as follows; and after a long and careful consideration of the subject, and bearing in mind what is granted in the great Trigonometrical Survey, I am of opinion, that it will be both just and politic to grant such an allowance. The expense will be only for such a short time every year, that it will be insignificant in the aggregate, whilst it may prove very beneficial to individual, as well as to the public interest.</p>		

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Scale for Hill Battas.

Revenue Surveyor...	...	Rupees 60 per mensem.
Assistants and Sub-Assistants, 1st Class	...	40 "
Junior Sub-Assistants	...	30 "
Natives' surveyors, 1st Class, drawing	...	8 "
20 Rupees and upwards	...	5 "
Tindals	...	3 "
Classies	...	2 "

181. It is necessary to mention, that the Revenue Surveyor himself draws no Arracan allowance, neither did he include himself in the proposed scale as laid down in his own report; but Officers in charge of the great Trigonometrical Survey parties, draw Hill allowance or special allowance for Assam; it appears to me therefore highly proper, that Mr. O'Donel should be treated in the same way. The Native Establishment likewise do not get any special allowance for Arracan; in their case therefore, it is important that a suitable remuneration should be granted for work of this arduous and dangerous character. The additional expense for the above object, can easily be met out of the fixed annual grant.

182. The contingent expenses incurred for the feed and keep of Elephants, amount to Rupees 1,331-12-1; the largest of any survey under this head, owing to the higher rate of wages.

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TABLE A.

GENERAL RETURN of Professional Work for Season 1857-58, namely from the 1st of October 1857 to the 30th September 1858, exhibiting cost, area, and average rates per Square Mile and per Circuit.

Divisions	Names of Superintending Officers.	Names of Districts and Fergunnahs.	PROFESSIONAL WORK.										Average rate per Square Mile.	Average rate per Circuit.	
			Number of Per- gunnahs.	Number of Per- Circuits.	Number of Mou- zabds.	Number of Hukks or Taveres Cir- cutts.	Average size of Circuits.	AREA SURVEYED In Acres.	In Square Miles.	Cost of Work, in- cluding Guard.	Re. As. P.	Re. As. P.			Re. As. P.
1st or Northern	J. J. Pemberton, Esq., Revenue Sur- veyor	Purnannah, Pungah, Kaseena, Basanttee, Bamundanga, Futehpore, Tapah, Poobhoobing, Lalchapur, Oodasee, Patgram, Koondse, Munthonia, Goybure, Chukta, Fut- lehpor, Daughat, Pyrabind, Saroopoor, and Sooj- nuggur &c., portions of Kazeesah, Bodah, and Rookim- pore Detached Villages in Kooch Behar River Circuits Mehalware calculations	18	9	1,514	1,516	638 46	9,67,918 78	1,512 37	34,679 5 7	22 14 10	22 14 0	33,796 3 0	22 5 6	22 5 1
2nd or Southern	Captain W. S. Row, Officiating Revenue Surveyor	Purnannah, Poostol, Chowrah, Mousah Je- hangerpoor, and Kordobo partially Mehalware calculation	4	3	1,080	1,077	316	8,40,836 00	632 54	30,765 8 8	57 12 4	28 9 0	400 0 0	58 10 1	28 15 10
3rd or Eastern	N. T. Davey, Esq., Assistant in charge	District Dacca Mehalware calculations	6	6	2,118	2,118	368 48	7,80,447 53	1,219 44	*32,828 8 7	26 14 9	15 8 0	830 1 6		
4th or Western	Captain J. E. Gastrell, Revenue Sur- veyor	Portions of 40 Purnannah, Jessore, and Soonderbans Mehalware calculations	40	9	1,313	1,055	632 36	6,70,838 11	1,048 15	35,306 10 9	33 11 10	33 8 4	644 8 3	27 9 7	15 14 3
5th or Aracca	J. H. O'Donel, Esq., Revenue Sur- veyor	Alyah, Aracca Portion of Chittagong River Circuit	4	4	175	175	5,080 12	7,61,674 12	1,221 37	127,471 3 9	18 14 7	160 1 10	24,960 67	18 14 7	160 1 10
		Total including Aracca Survey	30	30	6,208	5,949	630 22	36,89,692 38	5,765 14	1,63,045 12 9	23 11 8	27 6 0	5,765 14	27 12 8	123 0 5
		Grand Total and averages excluding expense of building m. soury pillars	30	30	6,208	5,949	630 22	36,89,692 38	5,765 14	1,60,228 0 6	27 12 8	123 0 5	5,765 14	27 12 8	123 0 5

* Inclusive of Rupees 121-9 expended on building m. soury pillars. † Exclusive of Rupees 413 15-4, excess drawn for Mt. Porteous during leave on Medical Certificate.
 ‡ Inclusive of Aracca Survey.
 (Signed) E. W. HOPPENNER, Assistant Revenue Surveyor.
 (Signed) H. L. THULLIER, Deputy Surveyor General of India.
 REVENUE SURVEYOR GENERAL'S OFFICE, Calcutta, the 2nd April 1859.

T A B L E B.

GENERAL STATEMENT of expenses of Native Establishment of each Survey for Season 1857-58.

Number.	Surveys or Divisions.	Superintending Officers.	Khushrah, including Purlalling and contract work.	Professional Survey, including guard and Mehallowance computers.	Total.
			Rs. As. P.	Rs. As. P.	Rs. As. P.
t or Northern	... Rungpore	J. J. Pemberton, Esq., Revenue Surveyor ...	0 0 0	14,707 5 7	14,707 5 7
d or Southern	... Dinagpore... ..	Captain W. S. Row, 33rd Regiment Native Infantry, Officiating Revenue Surveyor ...	0 0 0	14,232 10 4	14,232 10 4
d or Eastern	... Dacca	N. T. Davey, Esq., Assistant Revenue Surveyor in charge	0 0 0	13,741 9 4	13,741 9 4
h or Western	... Jessore	Captain J. E. Gastrell, 13th Regiment Native Infantry, Revenue Surveyor	0 0 0	14,097 1 8	14,097 1 8
h or Arracan	... Akyab	J. H. O'Donel, Esq., Revenue Surveyor	0 0 0	12,745 9 5	12,745 9 5
	Total Native Establishment ... ..	... ..	0 0 0	69,524 4 4	69,524 4 4
		Superintending Officers and Contingencies ...	0 0 0	41,483 13 5	41,483 13 5
		European Assistants ..	0 0 0	52,025 9 3	52,025 9 3
	Total Corresponding with Table A.	... ..	0 0 0	1,63,033 11 0	*1,63,045 12 9

* Inclusive of Rupees 12-1-9 expended in building masonry pillars.

REVENUE SURVEYOR GENERAL'S OFFICE; }
Calcutta, the 2nd April 1859.

(Signed) E. W. HOPPNER,
Assistant Revenue Surveyor.

(Signed) H. L. THULLIER,
Deputy Surveyor General.

TABLE E. 320

GENERAL STATEMENT of sums actually drawn inclusive of Guards for the five Revenue Surveys during the Season 1857-58, exhibiting amount short drawn in each Class.

SURVEYS.	MONTHS.										Total.	
	Superintending Officers and Contingent allowances.		European Assistants.		Native Establishment, inclusive of Mahalwarse computers.		Guards.		Total.			
	Rs.	As.	Pie.	Rs.	As.	Pie.	Rs.	As.	Pie.	Rs.	As.	Pie.
October 1857	5,542	0	0	4,509	2	0	8,901	10	6	139	0	0
November	8,542	0	0	4,348	0	0	6,045	0	11	1,631	12	6
December	3,309	12	4	4,352	7	3	7,518	3	1	160	5	8
January 1858	3,854	0	0	4,233	11	2	7,235	14	3	280	9	8
February	3,854	0	0	4,348	9	7	7,796	2	6	312	0	0
March	3,470	2	1	4,153	11	4	7,744	12	4	312	0	0
April	3,854	0	0	4,077	3	3	7,656	12	6	303	0	0
May	3,354	0	0	4,309	13	4	6,163	6	9	304	0	0
June	3,854	0	0	4,420	0	0	8,702	2	2	234	6	8
July	3,354	0	0	4,205	0	0	3,702	2	2	185	0	0
August	3,354	0	0	4,420	0	0	3,239	3	7	126	0	0
September	4,141	15	0	4,373	5	4	3,258	12	3	126	0	0
Total drawn for each Class	41,483	13	5	52,025	9	3	66,900	14	6	2,503	5	10
Total passed for each Class	43,560	0	0	68,400	0	0	69,900	0	0	5,760	0	0
Total savings to Government	2,076	2	7	16,374	6	9	2,939	1	6	3,196	10	2

SURVEYS.	Surveys and Contingent allowances.		Assistants.		Guards.		Native Surveyors.		Classes or Measurers.		Mahalwarse computers.		Total Expense.		Total savings.			
	Rs.	As. P.	Number.	Rs.	As. P.	Number.	Rs.	As. P.	Number.	Rs.	As. P.	Number.	Rs.	As. P.	Rs.	As. P.		
1st or Northern Division	8,712	0	6	11,525	0	0	387	13	0	7,344	4	1	883	2	7	2,344	10	5
2nd or Southern Division	8,632	15	4	18,250	3	10	265	5	10	6,232	3	1	430	1	6	9,293	9	4
3rd or Eastern Division	8,712	0	6	13,190	3	4	31	6	0	6,322	0	0	644	8	3	8,392	13	3
4th or Western Division	8,712	0	7	13,202	1	4	17	588	13	6,301	7	2	644	8	3	1,532	13	3
5th or Armoan Division	8,712	0	4	6,013	10	4	29	4,748	10	7,413	8	11	0	0	0	10,643	12	3
Total	41,483	13	27	52,025	9	53	1,622	29,825	15	34,317	2	9	2,817	12	4	163,045	12	9

Deduct on account of Captain Sherwill's pay for one year, at Co.'s Ra. 526 per mensem		Amount saved after payment of all fixed expenditure	
6,312	0	18,962	8
0	0	24,674	3

Of the above Statement, the following Table exhibits the expense under each Class, and the savings in each of the five Revenue Surveys.

* Inclusive of Rs. 12-1-9 } as supra.
 † Exclusive of Rs. 412-15-4 }

REVENUE SURVEYOR GENERAL'S OFFICE;
 Calcutta, the 2nd April 1859.

(Signed) E. W. HOPPNER,
 Assistant Revenue Surveyor.

(Signed) H. L. THULLIER,
 Deputy Surveyor General.

TABLE F.

STATEMENT of the savings in each Class of the under-mentioned Surveys respectively for Season 1857-58.

SURVEYS.	Superintending Officers.	Superintending Officers and Contingent allowance.		Assistants.		Native Establishment inclusive of Mehalswarree computers.		Guards.		Total.		
		Rs.	As. P.	Rs.	As. P.	Rs.	As. P.	Rs.	As. P.	Rs.	As. P.	
1st or Northern Division, Rungpore	Major J. J. Pemberton, Revenue Surveyor	0	0 0	2,420	0 0	0	0 0	754	3 0	3,174	3 0	
2nd or Southern Division, Dinagopore	{ Major R. Smyth, retired { Captain W. S. Row, Offg. Revenue Surveyor	79	1 0	5,320	2 8	335	5 8	564	0 0	6,298	9 4	
3rd or Eastern Division, Dacca	Mr. N. T. Davey, Offg. Revenue Surveyor	1,397	1 7	489	15 9	693	12 6	696	10 2	*3,865	6 3	
4th or Western Division, Jessore	Captain J. E. Gastrell, Revenue Surveyor	0	0 0	477	14 8	421	11 8	613	2 8	1,512	13 0	
5th or Arracan Division, Akyab	Mr. J. H. O'Donel, Revenue Surveyor	0	0 0	7,666	5 8	1,817	12 3	568	10 4	†10,052	12 3	
	Total	2,076	2 7	16,374	6 9	3,268	10 1	3,196	10 2	24,903	11 10	
	Overdrawn as detailed below	0	0 0	0	0 0	329	8 7	0	0 0	329	8 7	
	Balance as shown in Table E	2,076	2 7	16,374	6 9	2,939	1 6	3,196	10 2	24,374	3 3	
SURVEYS.												
1st or Northern Division, Rungpore	...	Rs.	As. P.	Excess for Superintending Officers.	Rs.	As. P.	Excess for Assistive ante.	Rs.	As. P.	Excess for Native Establishment.	Rs.	As. P.
2nd or Southern Division, Dinagopore	...	0	0 0	0	0 0	0	0 0	329	8 7	0	0 0	
3rd or Eastern Division, Dacca	...	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	
4th or Western Division, Jessore	...	0	0 0	0	0 0	0	0 0	0	0 0	0	0 0	
5th or Arracan Division, Akyab	...	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	329	8 7	0	0 0	

* Exclusive of Rupees 12-1-9 } at supra.

† Inclusive of Rupees 412-13-4 } at supra.

REVENUE SURVEYOR GENERAL'S OFFICE; }
Calcutta, the 2nd April 1859.(Signed) E. W. HOPPNER,
Assistant Revenue Surveyor.(Signed) H. L. THULLIER,
Deputy Surveyor General.

TABLE H. 322

STATEMENT showing the Total cost and rate per Square Mile of the following completed Districts of the Revenue Surveys in the Bengal Presidency, from the commencement of operations in 1834-35 to the end of Season 1856-57 or 30th September 1857: Lower Provinces only.

Number.	Names of Districts.	Names of the Surveyors.	Date of commence- ment of survey.	Date of final comple- tion of survey.	PROFESSIONAL ESTABLISHMENT.			KHUSRA ESTABLISHMENT.			Grand Total of Profes- sional and Khusras.	REMARKS.
					Area in Acres.	Area in Square Miles.	Total Cost.	Area in Acres.	Area in Square Miles.	Total Cost.		
1	Chittagong (partial only)	Lieut. H. Siddons, B. E. W. A. Wilson, Esq.	1834-35 1st Dec. 36	1840-41 30th Sept. 42	17,39,013 10,31,113	2,717.19 1,611.14	1,48,120 9 8 88,728 1 4	66.45	..	..	1,48,120 9 8 91,913 10 6	* The Survey of Pergunnahs Furgah, Umretia, and Kalra, were commenced by Lieut. Egerton and Ellis, in Season 1836-37; after the completion of the same in the following Sea- sons 1840-41, 1841-42, and 1844- 45 elapsed before the regular operations followed.
2	Monghyr	Capt. W. S. Sherrill, 66th N. I.	1st Feb. 36	30th Sept. 47	2,297,116	3,592.92	97,195 8 10	1,081.19	1,081.19	22,296 13 0	51,10,492 5 10	† The Survey of this District was commenced by Captain Mathison towards the close of Field Season 1837-38, and pro- gressed on until the Season 1838- 39. During Seasons 1839-40 and 1840-41, Captain Mathison's par- ties having no work in this Dis- trict for the want of prepared boundaries, they were conse- quently, during these Seasons, employed on the Survey of the District of Hilsa and Tumlook.
3	Jyesth	Lieut. H. L. Thuillier, B. A.	1st Mar. 37	Dec. 40	2,93,941	459.28	35,643 8 7	77 0 8	1,68 234	27 39	143,017 6 1	‡ The Survey of Pergunnah Kurruckpore, and Tuppeh Mun- neave, was commenced by Captain Ellis in Season 1839-40, Pergunnah Jumoonee and Chetorah by Mr. Shaw in Season 1840-41. Tuppeh Bel- pattah by Mr. Fitzpatrick in 1840-41, and on the termination of which, an interval during Seasons 1841-42, 1842-43, 1843-44, 1844-45, and 1845-46, elapsed, before the regular operations followed.
4	Cuttack	Lieut. R. Smyth, B. A.	1st Jan. 38	20th Dec. 42	19,59,553	9,01.80	76,903 6 4	25 1 10	8,04 219	1,256 69	1,08,487 6 4	
5	Pooree	Lieut. H. L. Thuillier	15th Jan. 38	30th Sept. 41	17,26,315	2,687.85	61,050 8 2	22 10 1	2,45 889	393.41	72,568 13 4	
7	Balasoore	J. Fitzpatrick, Esq.	10th April 38	20th Oct. 42	12,09,630	1,875.98	77,505 8 9	41 5 0	5,67,395	886.54	1,08,943 3 5	
8	Midnapore	Lieuts. R. Mathison and J. F. Egerton, and	1st May 38	30th Sept. 45	25,71,572	4,017.90	1,25,557 14 9	91 4 0	8,16,896	495 15	11,42,062 1 4	
9	Hilsa and Tumlook	W. A. Wilson, Esq.	1st Jan. 39	5th Oct. 42	6,48,927	1,013.95	51,500 14 7	50 13 8	3,95 018	595.02	79,970 2 1	
10	Cachar	Lieut. H. L. Thuillier	15th Dec. 41	30th Sept. 42	4,16,190	650.23	17,531 5 1	28 11 5	1,46 774	224.02	24,033 15 9	
11	Pasna	Lieut. W. Maxwell, B. A.	1st Jan. 41	22nd June 44	11,70,324	1,828.68	53,457 10 9	29 3 9	7,46,704	1,157.35	80,134 11 8	
12	Behar	Capt. H. V. Stephen, 19th N. I. and Lieut. W. S. Sher- will, 66th N. I.	1st Oct. 38	9th Nov. 44	36,41,026	5,689.02	87,737 10 10	15 6 9	8,68 803	562.18	11,07,589 12 9	
13	Sylhet* (partial only)	Lieut. H. L. Thuillier	1st April 45	30th Sept. 49	78,024	114.07	4,625 2 0	40 8 9	0	0	6,983 15 0	
14	Bhaugulpore	Capt. W. S. Sberwill and J. J. Pemberton, Esq.	21st Oct. 45	30th Sept. 50	40,94,469	7,803.85	1,14,464 5 10	14 10 8	5,29,717	827.65	81,31,387 15 2	
15	Purneah	Messrs. J. Fitzpatrick and J. J. Pemberton, Esq.	—	Oct. 44	36,56,060	5,712.47	1,02,587 12 7	17 15 4	16,02,225	2,503.45	11,41,493 9 9	
16	Saran	Lieut. W. Maxwell and A. J. Wyatt, Esq.	6th Nov. 43	13th Feb. 47	40,92,194	6,394.00	96,986 5 10	15 2 8	7,42,414	1,110.98	11,10,610 0 10	

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No.	Districts taken in hand, just finished, or remaining to be surveyed.	Approximate Area in Square Miles.	250 miles	10-75	9,952 8 10	925 13 1	66 14 1	2,00,325	812,991	6,228 1 4	57,085 14 5
17	Shahabad	28,18,000	4,403-12	50,857 13 1	11 8 9	2,00,325	812,991	6,228 1 4	57,085 14 5		
18	Hopbly	1,38,448	2,007-00	49,028 2 8	21 7 0	79,971	124,85	3,646 13 0	46,874 15 8		
19	Tyrbet	39,13,221	6,114-40	96,168 2 11	16 3 6	10,74,988	1,679,181	27,225 13 4	1,26,384 0 3		
20	Twenty-four Pergunnahs	14,57,325	2,277-07	1,12,625 3 4	49 7 4						
21	Panchavangan (civi. towns of Calcutta)	6,880	10-75	9,952 8 10	925 13 1						
22	Boondarban boundary	0	250 miles	16,720 9 5	66 14 1						
23	Maldah	8,24,520	1,288-31	32,664 10 4	25 5 8	1,71,961	268-70	4,804 12 0	1,87,469 6 4		
24	(a) Duhkin Shabaspore (Bulloah)	4,97,453	777-27	8,744 5 11	11 4 0	0	0	0 0 0	8,744 5 11		
25	Assam (Goalpara)	18,32,287	2,863-04	72,191 13 6	25 3 5	63,908	107-66	2,620 4 1	88,213 9 3		
26	Beerbhoom	19,91,398	3,114-46	85,867 5 2	27 7 8						
27	Moornahabed	16,86,053	2,634-45	73,817 8 6	27 6 10						
28	Rajshabee	19,42,695	3,035-33	1,04,244 6 9	34 5 6						
29	Niddeah	22,89,845	3,677-88	1,17,820 9 0	32 14 10						
30	Wymanging	45,37,405	7,089-89	2,31,415 7 4	32 10 3						
31	Palna	11,12,976	1,739-02	57,013 10 11	32 13 6						
32	Banooorah or West Burdwan	8,63,343	1,348-97	38,653 9 1	28 10 4						
33	Burdwan	17,23,298	2,692-65	71,384 0 9	26 8 1						
34	Bograh	5,81,070	876-97	13,015 0 1	14 13 6						
	Total		95,340*12,94,77,800 14 8		25 15 9			3,18,019 4 10	0 0 0		

** Rate per linear mile.
 †† The Survey of Pergunnah Darrhuck and Darrh Chundpora, were commenced by Messrs. Shaw and O'Donel in Seasons 1840-41, and 1842; on the completion of which an interval of Seasons 1842-43 and 1843-44, elapsed, ere the regular operations followed.

†† Inclusive of 602-80 square miles, area of the Garrow Hills.

Khurshah under Civil Department

(a) Incomplete.

No.	Districts taken in hand, just finished, or remaining to be surveyed.	Approximate Area in Square Miles.
1	Rungpore	3,377
2	Dacca	2,024
3	Furzedpore	2,304
4	Jessore	3,283
5	Dinagpore	3,642
6	Bachergunge	3,515
7	Tipperah	2,280
8	Bulloah	1,875
9	Sylhet	4,900
	Total	27,100

Some of the districts mentioned in the above list are not yet surveyed. The districts of the Province of the Lower Provinces, which are not yet surveyed, are:—
 1. Rungpore
 2. Dacca
 3. Furzedpore
 4. Jessore
 5. Dinagpore
 6. Bachergunge
 7. Tipperah
 8. Bulloah
 9. Sylhet

This at the assumed rate of Rupees 25-15-5 per square mile, gives Rupees 7,04,170-9-0 as the cost of surveying the remaining Districts of the Lower Provinces, of this estimated area, about 9,100 square miles have been actually finished, in Districts not quite brought to a close up to end of Season 1867-68.

LEVERIE SURVEYOR GENERAL'S OFFICE:
 Calcutta, the 2nd April 1869.

(Signed) E. W. HOPKNER,
 Assistant Revenue Surveyor.

(Signed) H. L. THUILLIER,
 Deputy Surveyor General.

STATEMENT supplementary to the Deputy Surveyor General's Statement E (appended to his Annual Report for 1857-58) showing the annual expenses incurred in the non-professional Branch from 1841-42 to 1858-57.

Year.	REMARKS				Total	Archaic Division.	4th Division orig- nally styled Behar Superintendency.	3rd Division orig- nally styled Bihar Superintendency.	2nd Division orig- nally styled Moughly Superintendency.	1st Division orig- nally styled Bhaugulpore and Fur- gupore and Fur- gupore Superintend- ency.	Square miles.				Total
	1st Division orig- nally styled Bihar Superintendency.	2nd Division.	3rd Division.	4th Division.											
1841-42.	0 0 0	0 0 0	8,921 12 3	13,463 10 10	0 0 0	23,385 7 1	The accounts of expenditure in the non-professional branch have never been so kept as to distinguish the portion incurred in the demarcation of one District from the portion incurred in the demarcation of another. The demarcation system under a separate Superintendent, commenced in 1841-42 in Behar. As the demarcations proceed into a new District, the unfinished work of the first District continues to occupy the attention of the party, and thus work may be going on simultaneously con- nected with two or more Districts, but without any apportionment of the expense being made amongst them. Hence it has come to pass that while the expense for each year and each Superintendent can be ascertained, that for each District cannot be determined with any degree of precision.				1,609	2,007	1,823	5,689	
1842-43.	0 0 0	0 0 0	36,330 11 9	35,085 5 0	0 0 0	61,416 0 9	The Districts which successively came under demarcation by the Superintendents of the four Divisions were respectively as follows:—				5,712	2,288	6,394	4,403	
1843-44.	0 0 0	0 0 0	21,894 15 8	32,594 14 11	0 0 0	54,589 14 7					1,268	9,577	6,114	6,062	
1844-45.	0 0 0	0 0 0	32,508 11 11	35,327 10 2	0 0 0	67,831 6 1					3,035	1,349	7,089	5,593	
1845-46.	13,094 4 2	0 0 0	32,739 14 9	34,491 2 3	0 0 0	85,325 5 2					1,739	2,692		3,114	
1856-47.	18,097 1 7	16,762 7 11	16,193 1 9	37,443 7 1	0 0 0	83,496 2 4					876			2,634	
1847-48.	50,380 3 2	16,500 0	17,704 14 3	25,005 8 0	0 0 0	1,10,200 11 5					14,349	Total	11,913	Total	21,425
1848-49.	39,667 4 2	18,761 11 3	16,335 5 8	40,065 8 7	0 0 0	1,15,339 13 8					Total			Total	25,406
1849-50.	46,910 15 8	19,697 13 11	9,958 4 8	38,897 2 20	0 0 0	1,13,374 5 1									
1850-51.	44,762 3 7	53,142 3 8	39,837 2 9	39,464 4 0	0 0 0	1,77,194 14 0									
1851-52.	55,293 9 10	63,769 4 3	66,666 1 10	55,144 8 1	0 0 0	2,41,067 8 0									
1852-53.	72,632 2 8	60,533 0 9	51,569 3 8	69,468 7 9	0 0 0	2,54,109 14 10									
1853-54.	70,306 0 2	53,980 14 6	47,697 5 10	54,538 4 4	0 0 0	2,38,833 8 10									
1854-55.	73,997 3 10	55,561 0 10	66,731 4 7	45,629 10 5	0 0 0	2,34,369 3 8									
1855-56.	67,198 5 1	46,902 8 2	61,498 10 3	65,884 1 2	0 0 0	2,41,483 8 8									
1856-57.	67,255 14 2	44,714 0 7	66,641 5 3	67,349 3 3	4,850 5 6	2,50,210 12 9									

FROM

THE OFFICIATING SUPERINTENDENT OF SURVEY,
1ST DIVISION.

To

THE SECRETARY TO THE BOARD OF REVENUE,
LOWER PROVINCES.
FORT WILLIAM,

Dated Dinagapore, the 17th February 1859.

SIR,

I HAVE the honor to submit the General Returns of the 1st Division of Survey for the year ending 30th September 1858.

2. The following Statement shows the work performed by the Officers attached to this Division :—

Names of Officers.	Number of hulkas demarcated.	Number of thakbusts made over to the Revenue Surveyors.	Boundary disputes decided.	Izad and adumliahan cases decided.	Duplicates of maps.	Miscellaneous cases decided.	Appeals decided.	Registers completed and sent to the Collector.	Arrears disposed of.
Mr. G. G. Morris, Superintendent of Survey, from 1st October 1857 to 31st May ..	708	2,231	37	120	0	291	62	12	} 509
Mr. W. Waterfield, Officiating Superintendent, from 5th June to 30th September 1858 ..	0	0	0	42	0	179	82	5	
Mr. W. J. Money, Assistant Superintendent, from 29th May to 30th September 1858 ..	0	0	3	216	2,283	20	0	0	
Mr. W. H. Ryland, Deputy Collector, from 1st October 1857 to 30th September 1858 ..	1,657	0	122	255	588	333	0	0	172
Mr. W. Clementson, Deputy Collector from 24th to 30th September 1858 ..	0	0	0	0	0	0	0	0	0
Baboo Issen Chunder Dutt, Deputy Collector, from 1st October 1857 to 30th September 1858 ..	0	0	20	262	120	719	0	8	1,458
Baboo Hurro Chunder Ghose, Deputy Collector, from 1st October 1857 to 15th March 1858 ..	781	0	33	10	113	146	0	0	136
Mr. W. Davey, Deputy Collector, from 3rd May to 30th September 1858 ..	908	0	95	34	2,822	64	0	0	0
Baboo Mahendronath Bose, Deputy Collector, from 1st October 1857 to 30th September 1858 ..	580	0	50	178	314	411	0	0	0
Total ..	4,634	2,231	360	1,117	6,309	2,163	144	25	2,275

3. Several of the hulkas assigned to Messrs. Morris and Ryland were demarcated more or less by Baboo Mahendronath Bose, but not filed till he had made over charge to the above named Officers.

4. Two strong parties proceeded to Dinagepore at the commencement of the field season.

5. The first, under Baboo Mahendronath Bose, comprised the 40 Ameens transferred with him from the 2nd Division to this Superintendency. They worked East and North of the gnomon-shaped tract taken up by the Surveyor last season. In the month of April, Mr. Morris, dissatisfied with the Deputy Collector's management of his Ameens, took the charge into his own hands, until Mr. Ryland could join him from Rungpore, where he was engaged with 20 men in the disposal of arrears, and especially of the cases left by Baboo Hurro Chunder Ghose undecided, upon the Cooch Behar frontier. On his arrival, he not only assumed charge of the Baboo's demarcations, but also with ten men from Rungpore, and ten from Mr. Davey's party, completed two circuits further to the East extending to the triboundary with Rajshahye and Bograh. The Baboo, meanwhile, was employed in compiling the towjee nikas of these and other Pergunnahs, and he compared and passed the whole of the maps prepared by his 40 men, as Mr. Ryland returned in July to his office at Rungpore. The duplicates were supervised by the Assistant Superintendent.

6. To the North-west of this circuit, a large tract of country extending from the River Atrai to the Purneah and Maldah frontiers, was surveyed by Baboo Hurro Chunder Ghose and Mr. Davey with 40 Ameens. For a month and half, between the departure of one Officer and the arrival of his successor, the charge of these also devolved upon Mr. Morris.

7. The number of hulkas completed is as follows. In the South-east portion (besides 86 maps of last year the internal work of which was left for this season) there were filed—

	<i>Maps.</i>
By the detachment from the 2nd Division	1,764
Deduct made over to the Surveyor this year... ..	11
	1,753
Add from last season demarcated but not surveyed	184
	1,937
By Mr. Ryland's party... ..	606
	2,543
Total South East circuit	2,543
,, North West circuit	2,264
	4,807
Grand Total	4,807

hulkas in hand for the Surveyor, calculated at 1,600 square miles, or (with the 500 surveyed this year) fully one-half of the Zillah.

8. It was of course impossible for Mr. Morris minutely to supervise the proceedings of 90 Ameens, and the men acting without concord had brought the work into much confusion before Messrs. Ryland and Davey took the field. I was unable to

close at all till the end of June, and then four circuits were left incomplete, while the arrears were larger than I could have wished, but, with the exception of some Mehalwaree work on the Bograh frontier, which we were compelled to postpone, most of these lie within the district of Baboo Hurro Chunder Ghose, and we have so arranged that they shall occasion no inconvenience to the Surveyor. Indeed, the number of boundary disputes pending is less than might have been anticipated from the changes in the Superintendents, and the number of hulkas completed, quite unprecedented, I believe, in the survey, especially considering that from a fourth to a third of the establishment

20 in Pubna under Baboo Essen Chunder Dutt, and was engaged throughout the year with 10 to 20 in Rungpore under Mr. Ryland. the arrears of other Districts.

9. The izad and adumnishan cases are also more numerous than usual, partly because Baboo Mahendronauth Bose being relieved from field duties was unable to work up the towjee nikas of most of this season's Pergunnahs, and partly owing to the new rule of reckoning these cases introduced by the Board. I give below a statement in fuller detail, distinguishing between the villages which have been surveyed in another name, or included within another village of the same Mehal, &c., and those which having been overlooked, were measured on subsequent investigation, and those again of which the recorded owners have been dispossessed, or which have been washed away by rivers, or of which nothing is known in the District. I have also separated the mal villages from the lakeraj: as there are numbers of the latter class entered in the Collectorate Books, while neither they nor their proprietors appear ever to have been heard of in the Mofussil, I must premise that it is not very easy to carry out the distinction between ijmalee and separated villages. The Collectorate Records are no safe guide on the matter, and unless the entire estates be held undivided, the probability is, that if discovered at all, the villages will be found to be independent at least in part. I would suggest that all missing villages be reckoned as separate cases without regard to this point.

NAMES OF OFFICERS.	On the file during the year.			Struck off.			Demarcated.			Recorded as missing.			Total Disposed of.			Balance.			REMARKS.
	Mal.	Lakheraj.	Total.	Mal.	Lakheraj.	Total.	Mal.	Lakheraj.	Total.	Mal.	Lakheraj.	Total.	Mal.	Lakheraj.	Total.	Mal.	Lakheraj.	Total.	
Superintendent of Survey	44	19	63	33	4	37	0	1	1	8	11	14	36	10	62	8	8	11	
Mr. W. J. Money, Assistant	195	0	195	170	0	170	6	0	5	8	0	8	139	0	139	12	0	12	
Mr. W. H. Ryland, Deputy Collector	103	68	171	82	11	93	7	2	0	8	55	63	97	68	165	6	0	6	
Baboo Essen Chunder Dutt, Deputy Collector*	161	24	185	100	11	120	22	0	22	22	13	35	153	24	177	8	0		
Baboo Mohender Nauth Bose, Deputy Collector	327	72	400	2	6	7	8	18	21	44	49	93	54	67	121	273	5	278	
Mr. W. Davey, Deputy Collector	8	10	23	3	7	10	0	0	0	0	12	12	3	19	22	0	0	0	
Total	838	202	1036	309	38	437	42	10	58	85	140	225	626	194	726	307	8	315	

* This does not include the references from the 4th Division which are of the nature of adumnishan cases. Their number is as follows:—

Name of Officer.	Villages pending from last year.	Instituted this year.	Total.	Disposed of	Pending.
Baboo Essen Chunder Dutt, Deputy Collector	484	1,331	1,915	931	834

10. The file of appeals was clear at the end of September.

11. The total expenditure of this year amounts to Rupees 76,368-5-3¼ a large increase upon last year, caused partly by the promotion of Officers in the Department, but chiefly by the transfer of a Deputy Collector with his ministerial and field* establishment from the 2nd to the 1st Division. Deducting this additional expense and even making allowance on the other hand for the saving under the head of the Assistant's salary and establishment, there will be found a balance not much short of Rupees 3,300 in favour of the present year.

Present year.....	76,368	5	3¼		
Last year	67,255	14	2	Increase.....	9,112 7 1¼
<hr/>					
Baboo Mahendronauth's salary with establishment }	4,800	0	0		
Ditto Field Establishment.	8,678	8	8		
Ditto other expenses..	1,467	10	2		14,946 2 10
<hr/>					
Decrease in the original 1st Division.....	5,833	11	8¼		
Deduct the decrease this year on account of Assistant Superintendent's salary and office establishment.....	2,565	6	9		
<hr/>					
Net decrease on the original 1st Division	3,268	4	11¼		
<hr/>					

12. It is not necessary for me to enlarge to the Board on the loss this Division experienced in the departure of Mr. Morris, especially as it occurred at the very time when the field operations were about to be closed.

13. And if the changes in the superintendence proved a great impediment in the working season, another cause was equally adverse in the recess. These rains were the first passed in the Northern Districts by the establishment, who being natives of the South and East soon felt the ill effects of the climate. The Deputy Collectors did not escape, and, indeed, there have been days when not one of the regular Omlahs has been present in the office. The English branch suffered most, and this has retarded the preparation of the Registers in a great degree.

14. Twenty-five however have been sent to the Collectorate within the year, including the first instalments of Bograh and Rungpore, while 18 are reported ready for transmission.

15. The arrears of Rajshahye are now confined to office work, and those of Pubna Proper nearly so, while Baboo Essen Chunder Dutt had only four cases of Bograh on his file at the close of the year. In this latter Zillah and the North of Pubna, however, it is probable that others will be instituted. But the chief obstacle to the completion of the Pubna Registers is in the numerous requisitions made to us from the 4th Division in Jessore and Furreedpore, vide para. 9. If, as I believe, the last of these have now been sent to us, I trust there will be no obstacle to the completion of all field enquiries in the District during the approaching season.

* For two months, 5 Peshkars and 50 Amceens ; for six months 4 Peshkars and 45 Amceens.

16. Most of the other Registers are in the Superintendent's office and advancing more or less. All are there carefully examined before they are dispatched to the Collector.

17. I beg here to mention one impediment to the registry work which I think might easily be removed. The Atlases now prepared by the Surveyors are somewhat unwieldy for constant reference, and on account of their size are exposed to greater risk of injury than such valuable records ought to be allowed to run especially when carried into camp or removed with the head-quarters. Yet in the course of compiling the Registers it is absolutely necessary to consult them constantly. The old volumes of separate maps were arranged in the order followed by us, and in consequence we could easily refer to any village we sought, but the later Statement Volumes have no Index, and being arranged according to the professional numbering are to us almost useless. It will be evident that, while with the professional numbers for data it is easy to find the thukbusts, we, who have only the latter, find it very difficult to conduct the reverse process.

18. I proposed therefore to the Surveyors of both the Northern and Southern Divisions that they should furnish us with an Index giving our Nos. in regular series and opposite to each a reference to the Volume and No. of the Professional Map. From the 2nd Division I have not received any records hitherto, but in the 1st I see that while they have now given an Index to the Statement Volumes, it is one which like that prefixed to the Atlases follows not our order, but an arrangement partly alphabetical and partly that of their own numeration.

19. The latter is quite useless to us, and the value of the former is much impaired by the slender acquaintance with Bengalee possessed by some of the professional subordinates. The vernacular names are at times distorted out of all recognition, and when correctly spelt are often overlooked owing to their being ranked alphabetically under some secondary word such as Kismut or Chuck.

20. By careful examination of our vernacular lists, and the addition of an English version, I hope to have obviated in some measure, these defects with regard to this season's work : but the original difficulty will remain, that when in search of any village we cannot tell to which of the professional volumes we ought to refer. The new Index is only so far a gain that we have the old information in a more manageable form. If there be any objection to the preparation of a regular Index upon my plan, it would be enough for present use, were the Surveyor to return our list of the Maps we make over to him with his volume and number noted against each.

21. Mr. Money arrived to rejoin his appointment a few days before myself. As the establishment he found consisted in great measure of Omlahs who had been previously engaged in this office, I made over to him the Registers on which they had been employed, and was well satisfied with the manner in which they were prosecuted. I regretted Mr. Money's removal more particularly in the present dearth of Officers of any survey experience.

22. Mr. Ryland is a great loss to the survey especially that owing to his summons from Rungpore in April he was unable to complete the arrears of that Zillah before his departure. There is now not a single officer attached to this Division who has ever visited Rungpore, but it is necessary for one to proceed thither and traverse the whole length of the District for the sake of local investigations.

23. Mr. Ryland's decisions are particularly good, and the Commissioner agreed with him in three cases where the Superintendent had differed in judgment. He has, I am glad to say, received his promotion during the year. His successor Mr. Clementson only joined a few days before the close of the period under report.

24. Baboo Essen Chunder has made great progress with the Districts entrusted to him as will appear above. He has fairly earned the step he too has obtained.

25. Mr. Davey's knowledge of the professional survey is very useful, but he has not had much experience as a Deputy Collector. He has spared no exertion to clear off the work pending from the file of his predecessor. That officer was transferred previous to my taking charge, but from what has come under my observation, though I make allowances for ill health, for the knowledge that he was to be removed from the department, and for natural unwillingness to commence upon work which he would be compelled to leave unfinished, I cannot but attribute to him the majority of the arrears both in this Zillah and Rungpore.

26. I have had no cause to complain of Baboo Mahendronauth Bose since my arrival. He has performed to my satisfaction all the duties I entrusted to him, and of his abilities I have a high opinion.

I have, &c.,
 (Signed.) W. WARTERFIELD,
Officiating Superintendent of Surveys,
1st Division.

No. 35.

To

THE SECRETARY TO THE BOARD OF REVENUE,
 LOWER PROVINCES,
 FORT WILLIAM.

Dated Dacca, the 9th November 1858.

SIR,

I have the honor to forward the General Returns relating to this Division for the Survey year ending the 30th September last.

2. The following memo. exhibits the nature and extent of the work performed by the officers attached to this Division during the period under review.

Names and Designation of Officers.	Villages demarcated in advance of survey.	Boundary dispute cases.	Enquiries regarding excess and missing lands.	Other miscellaneous cases.	Appeals.	Registers Monzaware and Mehalware completed.	Duplicate copy of Maps.
Mr. H. Muspratt, Superintendent, from 1st October 1857 to 30th September 1858	483	396	201	457	806	0	115
Baboo Frankisseu Roy, Deputy Collector, from October 1857 to February 1858	0	0	13	8	0	0	0
Baboo Brijsooender Mitter, Deputy Collector, from 1st October to 30th September 1858	1,286	1,669	2,569	973	0	0	585
Baboo Joy Chunder Mojoondar, Deputy Collector, from 1st October 1857 to 30th September 1858	2,126	1,640	1,649	2,384	0	0	208
Baboo Satoowry Roy, Deputy Collector	799	1,507	174	341	0	0	49
Total.. .. .	4,694	5,212	4,696	4,663	800	0	957

3. The tract of country in which operations were carried on, is bounded on the North by the Dullasery and Booreegunga Rivers, on the West by the Pudda River, on the South by the Pudda and Kirtinassa Rivers, and on the East by the River Megna, and contains an area of about 1,100 square miles.

4. Knowing the work of the season would be difficult owing to the great intermixture of Pergunnahs and Mehals, I undertook a portion of the demarcations. My circuit was the tract of country lying between the Dullasery and Booreegunga Rivers. This tract contains 446 villages, and an area of 72 square miles. With one Peshkar and 7 Ameens, 418 villages comprised in 125 bulkas, and containing 7,445 chuks, were completed, and nine villages remain to be completed next field season. Had I remained in the survey, I should have completed these villages and disposed of all the disputes by the end of December next. Besides my Mofussil circuit, I on the 8th June deputed Ameens to measure the City of Dacca under my own superintendence. By the 30th September 789 chuks and 579 khusreh daghs had been measured, and about half the town remained incomplete. I also took in hand the towjee nikassee work of 66 Pergunnahs and Tuppehs. During the year, I disposed of 396 boundary dispute cases, 291 village enquiries and 806 appeals.

5. Baboo Prankissen Roy was employed from the 1st October 1857 to February 1858 on the Mymensing Registers. He has since been employed in the same work under the Collector of Mymensing. The amount of work done by this Deputy Collector while employed at Dacca was not satisfactory.

6. To Baboo Brijsoonder Mitter, aided by 3 Peshkars, was made over the tract of country lying between the Dullassery, Megna and Kirtinassa Rivers, 338 square miles in extent, and containing 1,399 villages. Of these 1,286 villages were completed, 11 nearly completed, and 102 remaining to be taken in hand next field season, and 29,085 mehalwar chuks were measured. The 113 villages lie on the West of the Deputy Collector's circuit, so that no portion of the Deputy Collector's work can be made over to the Revenue Survey for his field season's work in 1858-59. This Deputy Collector had two difficulties to contend with. *1st.*—The intricacy of the work. *2nd.*—The early inundation of the tract made over to him, but at the same time I consider that by a wise distribution of his work among his Peshkars, and by obeying my direction to commence from the North of his circuit, he would not have left incomplete villages in the North-West and West of his circuit, and there would have been ready nearly 200 square miles of his circuit to make over to the Revenue Surveyor next field season.

7. Baboo Joychunder Mojoomdar, with 4 Peshkars, was employed in demarcating a circuit lying between the Dullassery and Pudda Rivers, bounded on the East by the Hilsamarree and Tulsikhallee Rivers. This circuit contained 2,126 villages with an area of 560 square miles, and contain 21,740 mehalwarree chuks. In March the Deputy Collector reported to me, that he required assistance to complete his circuit, I therefore transferred from him to Baboo Satcowry Roy 137 villages. All of the pending dispute cases on Baboo Joychunder Mojoomdar's file have been investigated on the spot, and there should be no delay in disposing of them.

8. Baboo Satcowry Roy, with 2 Peshkars and 20 Ameens, was first employed in demarcating the tract of country lying between the other two Deputy Collectors'

circuit. This tract contained 662 villages, with an are of 130 square miles, and afterwards I made over to him 137 villages lying in Baboo Joychunder Mojoomdar's circuit. The total area of Baboo Satcowry Roy's work was 190 square miles and contained 15,400 mehalwar chuks. Baboo Satcowry Roy's work was well completed. All his dispute cases were investigated, except two, before he returned to head quarters, and had he received the Collector's lists earlier, there would have been a fewer number of izad cases pending on his file at the end of the year.

9. The number of dispute cases instituted this year was very great, but did not exceed the number I anticipated. In Pergunnah Bicrampore, the lands are so interlaced and are of such value, that the area of the disputed land was frequently for 1, 2, and 3 cottahs of land. Of the cases decided, 1,568 were struck off for non-payment of Ameen's fees, &c. As the greater portion were for non-payment of fees, I have directed next year that cases should not be brought on the file till the Ameen's fees for laying down the disputed boundary are deposited, as there is no necessity to swell the number of disputed boundaries by entering those cases in which only a petition is presented.

10. I would bring again to the notice of the Board the proposal made in my letter No. 24, dated 19th November 1857, viz. employing ticca Ameens to mark out disputed boundaries. The dispute cases in this Division are so numerous that much valuable time of the Ameens is lost during the field season. About 4,000 day's work was occupied during the past year in laying down disputed boundaries, and had ticca Ameens been employed in this work, the whole circuit taken in hand would have been completed, and the area counted on the whole expenditure would have been less by Rupees 4 or 5 per square mile.

11. Of the 808 disputed cases pending on the 30th September 1858, 400 have since been decided, and the remainder should be disposed of before the 1st February next. The Peshkars were employed in investigating and reporting on 1,778 cases, and in only a small percentage did the Judicial Officers not coincide with the Peshkar's reports.

12. The number of appeal cases on the file during the year was 1,053, of these I disposed of 806 (nearly double the number decided in 1856-57). In 662 cases the orders of the Deputy Collectors were upheld.

13. During the year 4,696 enquiries were made regarding excess and missing vil-
 lages of Zillahs Mymensing and Dacca, and when the Registry work of Zillah Mymensing was made over to the Collector of that District, 1,428 cases were made over to him for enquiry. In Zillah Dacca the mehal-milanee work has been carefully attended to by myself and subordinates, and this duty has not been neglected as it was in Mymensing. The enquiries in 2,533 Mehals* of the Dacca District have been completed. Many difficulties beset the

*By Superintendent	150
„ Brijjo Sondur Mitter	657
„ Joy Chunder Mojoomdar	1,369
„ Sat Cowry Roy	357
	2,533
Mehals ...	2,533

mehal-milanee work or it would have been in a more perfect state than it now is. 1st.— The Collector has not yet made over all the Pergunnah Lists, and many Pergunnah Lists were not received till months after the villages of those Pergunnahs were

demarcated. *2ndly.*—Enquiries had to be made during the recess instead of in the field when the parties were present. *3rdly.*—No copies of these lists could be made so as to allow each Deputy Collector and Peshkar to have all those he required for reference, and thereby delay occurred by its being necessary to refer Statements of demarcated villages from one Deputy Collector to that Deputy Collector who had to prepare the towjee neekas of the Pergunnah to which the village belonged. I did divide the Pergunnahs as well as I could amongst the Deputy Collectors, but owing to the lands of no Pergunnah being in a compact form, much interchanging of Statements were made by the Deputy Collectors and myself; each Deputy Collector has in two years measured lands of most of the larger Pergunnahs, and therefore each Deputy Collector required a copy of those Pergunnah lists in his office to check the demarcation work in his circuits. *4thly.*—The lists received from the Collector have been found very incomplete, and require innumerable enquiries to be made and proofs called for from the Zemindars and Shikmeedars to explain away all discrepancies. *5thly.*—In the Collectorate no lists of villages pertaining to many Mehals exist, and of the 157 Pergunnah lists received, no fewer than 30 have been returned to the Collector for alterations or additions. *6thly.*—To show from the Collectorate lists that enquiries regarding lands are difficult from the lists affording no data to go upon, I will take 3 Pergunnahs Patpassa, Mobarukujaal and Jafernuggur. In Pergunnah Patpassa, &c., one Mehal No. 115 pays revenue annually to the amount of Rupees 10,095-24. The Punjsallah papers of this Mehal contain the names of only 195 villages, and besides them are entered 108 dependent talook names, but no lists of the villages pertaining to each of these talooks. Pergunnahs Mobarukujaal and Jafernuggur contain 119 and 42 mehals respectively. A kyfeet is entered opposite to the names of 15 of the former and 9 of the latter that there is no trace of the village names pertaining to them in the Collectorate papers.

14. I brought to the notice of the Board of Revenue the delay in receiving the Collector's papers in my letter No. 1 dated the 12th October 1857, and also in my Annual Report last year. The Board in reply* to my letter informed me that they saw no reason to interfere in the matter. Since then I have repeatedly urged on the Collector to furnish me with all the lists, and on the 30th August last I was compelled most unwillingly to address the Board again on this subject, as the work in my office was falling into arrears for the want of the Collector's lists, and unless speedily remedied the preparation of the Dacca Registers would have been delayed as long as those of Mymensing.

* No. 422 dated 3rd
Novr. 1857.

15. Prior to the dispatch of the papers of the Mymensing work to the Officiating Collector of Mymensing, very great progress had been made in completing the comparisons with the Collectory papers. Of 4 Pergunnahs, the Mouzahwar, and Mehalwar Register in Bengallee had been written, and the towjee neekas of 16 Pergunnahs being completed before their despatch, the Registers of them could be written up without any difficulty by Mr. Campbell.

16. The preparation for registry work in Zillah Dacca is progressing very favorably in the Pergunnahs brought under survey, and the papers of which have been received from the Collectorate. When any Pergunnah has been professionally surveyed and the areas calculated, no delay in completing the Registers of such Pergunnahs, and making them over to the Collector, should occur.

17. During the two years in which demarcations in Zillah Dacca have been carried on, there have been measured portions of

80	Pergunnahs	and	54	Tuppehs	of	Zillah	Dacca.
7	Ditto	and	1	Ditto	of	Ditto	Rajshahye.
9	Ditto	and	2	Ditto	of	Ditto	Tipperah.
6	Ditto	and	5	Ditto	of	Ditto	Mymensing.
2	Ditto	and	1	Ditto	of	Ditto	Backergunge.
2	Ditto	and		Ditto	of	Ditto	Furreedpore.
1	Ditto	and		Ditto	of	Ditto	Jessore.
1	Ditto	and		Ditto	of	Ditto	Nuddea.
<hr/>				<hr/>			
108			63				
<hr/>				<hr/>			

18. I beg to take the present opportunity to notice the misconception put by the Board of Revenue in para. 47 of their Report on the 11th para. of my last Annual Report. The writing up of a Register occupies the Establishment but a few days, while the time which is occupied in obtaining information regarding all the Mehals pertaining to that Pergunnah may be more than 12 months. To account for this I must explain. *1st.*—That the Punjsallah papers were prepared and filed by interested parties, and therefore do not contain correct statements. *2ndly.*—That some landholders try to conceal the extent of their estates. *3rdly.*—That many have for reasons now undiscernable changed the village names. *4thly.*—That the holders of under-tenures cause confusion in trying to mark out lands of two or more Estates with only one Estate, intending afterwards to keep the enlarged one and throw up the others. *5thly.*—That the lands of some Mehals are not demarcated and search has to be made for the proprietors. *6thly.*—That no assistance is given by the Collector, but the Superintendent has to depend on himself and subordinates to hunt up for information, and *7thly* and lastly, the registry work requires to be looked after by Deputy Collectors who have all their time taken up by looking after work in the field all day, and deciding cases, &c. at night. For these reasons chiefly the towjee neekas of a Pergunnah is often long delayed. The misconception made by the Board was in considering that the work which had been done previous to writing the Registers was nearly useless. Such was not the case. The Mouzahwar Register had not to be re-written. The enquiries which had been completed had *not* to be *re-inquired* into. All that had to be done was to include in the alphabetical list of villages in the Mehalwar Register those villages of Pergunnah Runbhawal, situated in Zillah Dacca. Mr. Campbell, in his Annual Report for 1853-54, reported that six Mehalwar Pergunnahs in Mymensing were less than half-finished. From them or his notes I found no clue regarding outlying villages, and also many other data relating to Registers, and it was only by frequent communications with Mr. Reid late Controller of Surveys, that I was able to discover in what manner Registers should be prepared in their minor details.

19. There are about 2,500 copy Maps of Season 1856-57 for the Board and Collector to be made. The delay in making them was caused partly from the want of Collector's lists to complete the mehal-milancee, and partly from the Ameens remaining out in the field during June, July and part of August.

20. The total expenditure during the year was Rupees 65,785-10-7. Of this sum Rupees 5,809-2-6 was expended by Mr. Campbell for the Establishment sent to Mymensing. The sum realized for marking out disputed boundaries was Rupees 2,504-4-2. The cost per square mile was Rupees 58-15-3½. The mileage rate is much higher this year owing to the great intermixture of property on the season circuit.

21. Each of the Deputy Collectors have satisfied me with the amount of work they have performed. The labour of all was much increased by the delay in receiving the Collectory papers, but with increased exertion the arrears of the mehal-milanee work are not heavy or likely to retard the work of next season. It was with pleasure I was able to inform Baboo Joychunder Mojoomdar that his valuable services had met with the approval of Government, and that he had obtained his promotion to the 4th grade. Baboo Satcowry Roy has worked hard, but is not yet sufficiently acquainted with the Regulations and practices of Courts.

I have the honor to be, &c.,
 (Signed) HENRY MUSPRATT,
Superintendent of Survey, 3rd Division.

No. 433.

To
 THE SECRETARY TO THE BOARD OF REVENUE,
 LOWER PROVINCES,
 FORT WILLIAM.

Dated Kidderpore, the 15th December 1858.

SIR,
 I have the honor to submit the General Survey Returns of the 4th or Western Division Revenue Survey for the year 1857-58, ending September 30th, 1858.

2. The annexed memorandum shows the work performed by the several Officers of the Division during the period under review.

	Number of Villages demarcated.	Number of Maps made over to the Surveyor.	Boundary disputes.	Lead and Adum-nishun cases decided.	Duplicate Maps.	Miscellaneous cases.	Appeals decided.	Registers completed and sent to the Collector.
J. Watson, Esq., Superintendent of Survey, to 8th September ... }	0	216	0	39	0	965	259	1
W. Waterfield, Esq., Assistant Superintendent of Survey, to 22nd May... }	293	0	64	12	0	121	0	6
Baboo Tarucknath Ghose, Deputy Collector }	271	851	107	220	719	1,460	0	2
Moulavie Ahsan Amed Khan, Deputy Collector }	630	0	219	285	935	1,028	0	0
Total	1,203	1,067	390	556	1,654	3,574	259	9

3. The field establishment consisted as formerly of 10 Peshkars and 100 Ameens ; 4 Peshkars and 36 Ameens were employed under Deputy Collector Baboo Tarucknath Ghose on the demarcation of those Backergung villages lying to the West of the Balesur River, which the Board of Revenue in their letter No. 137 of the 31st March 1857 sanctioned my including with the Jessore District. On completing this duty, his men were partly engaged upon enquiries regarding untraced villages of Jessore Pergunnahs, and partly in the demarcation of that circuit in the Furreedpore District which had been assigned to Mr. Assistant Waterfield, and of which the Deputy Collector took charge upon Mr. Waterfield's transfer in May to another Division. The Deputy Collector returned from the field to head quarters early in July.

4. Deputy Collector Moulavie Ahsan Ahmed, with 4 Peshkars and 36 Ameens, and Mr. Assistant Superintendent Waterfield, with 2 Peshkars and 18 Ameens, were engaged in the demarcation of the Southern portion of the Furreedpore District. Both Officers had a difficult and harrassing task to perform. The country was found most unfavorable to survey operations, owing to the marshy lands, swamps, and morasses, which are so numerous in that District. There was also an unusual amount of litigiousness, and even a disposition to resort to force on the assertion of a claim, which I have not found in those Districts which have been surveyed under my superintendence. Every one appeared anxious to have not only his own land surveyed, but some portion of his neighbour's to be included with it, and rival parties not content with making their respective claims quietly, very frequently exhibited a decided inclination to settle the question by an appeal to arms. Both Mr. Waterfield and Moulavie Ahsan Ahmed exerted themselves greatly, by constant and immediate communications with their Ameens, and by local investigations personally conducted, to settle disputes amicably, and I consider that it is to their efforts, that the file of the boundary cases is not heavier than it is.

5. The area demarcated this year is about 850 square miles, and is comprised in 1,203 villages. Some portion of this area, situated in the Jessore District, was taken up by the Revenue Surveyor, but as the 470 square miles demarcated in 1856-57 in Furreedpore, have not yet been entered upon by the professional party, I estimate the area ready for survey at 1,100 square miles, and as the villages in Furreedpore are small, the Revenue Surveyor has ample work for the coming season.

6. The Maps connected with this year's demarcation have been made over to the Professional Surveyor.

7. The state of the business files, will, I hope, be considered satisfactory. The disputed boundary cases and the appeal cases have certainly increased ; and owing to the intermixture of estates, a field by field measurement had to be made in no less than 61 villages, a number far exceeding that of previous seasons.

8. There have been no changes in the system of survey during the year. An additional check on the Peshkars and Ameens was introduced in this Division, and it was sanctioned by the Board in their letter No. 267 dated 28th July 1858. I allude to the publication of a notice, that copies of field books or chittas, given by the Ameen in the field to interested parties, would (if presented to the Deputy Collector or Superintendent within 6 weeks, from the date of the demarcation of the village) be compared with the original document in the office, and every discrepancy investigated and explained.

9. The Board in their letter No. 121 dated 7th April 1858, ruled that in all "new Districts" the observance of Clause 6, Section XI. of the Thakbust and Khusrh rules* should be dispensed with. This rule does not affect this Division, until the demarcation of the Backergunge District commences.

10. The Mehalwar and Mouzahwar Registers of 9 Moorshedabad Pergunnahs have been transmitted to the Collector's office during the year.

11. The causes that have retarded the preparation of the Registers of the Moorshedabad District were explained in my last Annual Report, and need not be repeated here. There is no doubt that the Register work of this Division is in a backward state; and from the resolution recorded by His Honor the Lieutenant-Governor on the Board's report on the Survey Operations of 1856-57, it would appear that in all the Divisions there has been a failure in this particular respect. As far as this Division is concerned, I would state that this part of the duty is by no means considered one of secondary importance, for as much time and attention is given to the Registers as it is possible to bestow. Our shortcoming is to a great extent attributable to the fact that the energies of the whole establishment are *obliged* to be given to the preparation each year of an area sufficiently extensive to occupy the professional party during the ensuing season. In the Districts of Lower Bengal, where the survey is now engaged, it is impossible for the demarcations to proceed as rapidly as heretofore, the numerous properties, the intricacy of the holdings, the litigiousness of the people, and the character of the country, combine to retard progress. For 7 and even 8 months, the establishment is almost entirely and exclusively given up to demarcation duty, and the Register work for that period is almost at a stand-still, and it is only during the remaining 4 or 5 months that any material progress can hope to be made. In order to expedite the Register work generally, I am of opinion, that a Deputy Collector or other Officer should be especially deputed to take in hand the preparation of the Registers of a District. This Officer, with his establishment and records, should be located in one place, until the task is accomplished, for if the Register establishment has to follow the Superintendent from one District to another, and from place to place during the demarcation season, so much time is lost in mere travelling and in communicating with the Record-keeper at head-quarters, that (as before observed) the work is comparatively speaking at a stand-still. There are now 3 Deputy Collectors attached to this Division, but as remarked in my letters to the Board Nos. 254 of the 18th August 1857, and 317 of the 7th September last, their services must be devoted to the demarcation work, and I could not possibly spare one of them for the Registers. I would certainly recommend the appointment of an Assistant, or a 4th Deputy Collector to this Division, with the view of his exclusive employment in Register duties.

12. I beg to bring to the notice of the Board the indefatigable exertions of my Deputy Collectors, Baboo Tarucknath Ghose, and Moulavie Ahsan Ahned. I earnestly recommend both for promotion to a higher grade in the list of subordinate Executive Officers. I have alluded in the 4th Para. of this Report to the harassing nature of the work with which the Moulavie had to deal in Furreedpore, and I may here add, that he has suffered in health for some time from the fatigue and constant exposure he underwent.

13. I cannot close this Report without expressing my appreciation of Mr. Assistant Waterfield's services during the period he was connected with this Division ; his industry and careful attention to business have been productive of many advantages, and his departure is felt as a serious loss.

I have, &c.,
(Signed) J. WATSON,
Superintendent of Survey, 4th Division.

No. 57.

To

THE SECRETARY TO THE BOARD OF REVENUE,
LOWER PROVINCES.
FORT WILLIAM,

Dated Burdwan, the 21st December 1858.

SIR,

I HAVE the honor herewith to submit the usual Annual Statements Nos. 1, 3 and 4 (Statement No. 2 being blank) of the 2nd Division Survey Superintendency for the year 1857-58 ending 30th September 1858.

2. The following Memorandum shows the nature and extent of the judicial work performed by the Officers attached to this Division during the period under review.

Names and designation of Officers.	Boundary disputes decided.	Enquiries regarding excess and missing mouzahs.	Other miscellaneous cases.	Duplicates of Maps.	Appeals.
H. B. Lawford, Esquire, Officiating Collector, from 1st October to November 1857.	0	0	0	0	16
C. Hobhouse, Esquire, from December 1857 to September 1858 .	0	0	288	17	56
Bahoo Doorgapersaud Ghose, Deputy Collector, from October 1857 to September 1858	28	1,401	393	124	0
Total	28	1,401	681	141	72

3. It will be observed from Statement No. 1, that all the cases connected with boundary disputes of the Burdwan District, viz. 28, were disposed of during the year. Investigations have been held in 1,401 izad and adumnishan cases, and the number pending amounts to 7 only. The column containing miscellaneous cases will show that out of 698, 681 have been decided, and 17 are pending, and this, owing to the incompleteness of proceedings only. Besides this, 141 duplicates of Maps have been prepared for the Board's Office.

4. The number of appeals on the file during the year was 116, of which 56 were decided by me and 16 by Mr. Lawford. In 50 cases, the orders of the Deputy Collectors were upheld, in 12 modified, and in 10 returned for revision. The remaining 44 were principally instituted at the close of the year, and remained undecided, for the reasons fully stated in the remarks of the 4th Quarterly Statement No. 1, submitted with my letter No. 53, dated 8th November 1858.

5. Of 63 *towjee nikasee* Statements of the Burdwan District, 56 have been completed by the Deputy Collector, Baboo Doorgapersaud Ghose, and 7 remain incomplete. In addition to the above, the work of the *towjee nikasee* Statements of 7 Pergunnahs of Nuddea District, has also been finished by the Deputy Collector, as reported in my letter No. 19, dated 29th January 1858, para. 4.

6. Bengalee and English fair copies of Mouzawar Registers of Bancoorah District have been prepared. It may not be out of place to mention, that some few alterations in these Registers will unavoidably have to be made on the completion of the *towjee nikas* of the District, but these, I trust, will easily be effected without injury to the fair copies, as represented in my letter No. 53, dated 8th November 1858, para. 4. The rough Mehalwar Register of Bancoorah District has also since been prepared, but the complete accuracy of this also depends on the completion of the documents above spoken of.

7. The fair copy of the Mehalwar Register of Bancoorah District, I have decided not to commence upon until the *towjee nikas* is completed. As I am told that numerous alterations with respect to Mehals and Mouzals will have to be made, and I have hence thought it would involve double labor to take up the above work now.

8. The whole works connected with the Burdwan Survey have, with the exception of the preparation of the registers, been virtually completed. The rough registers, 25 in number, comprising 4,851 villages have been prepared as far as the data in hand permitted, but none of them have as yet been completed owing to non-receipt of the village plan volumes. One of these was received on the 4th November 1858 from Captain W. S. Row, Officiating Revenue Surveyor, 2nd Division. Should the rest of these plan volumes be transmitted shortly, I believe I may confidently say that the Registers of Burdwan District will be well in progress during the ensuing year as the *towjee nikas* of the entire District is completed with few exceptions, *viz.* 7 in number (as alluded to in para. 5) which are also in the course of preparation by the Deputy Collector.

9. Deputy Collector Baboo Doorgapersaud Ghose informs me, that most part of the *towjee nikas* of Bancoorah District has been prepared, and the remainder is progressing, (which he thinks will be completed before May next). He also states, that he finds a hindrance to progress in the facts, that whilst the demarcation operations of the District were before jointly conducted by himself and his late colleague Baboo Tarachand Ghose, he is now alone in the performing the entire work of the *towjee nikasee* Statements of the District, and that numerous enquiries have been and still remain to be made regarding the excess and missing mouzals and the documents connected therewith.

10. The Mehalwar and Mouzawar Registers of Nuddea Survey were, for the supply of sundry omissions, returned to this office at the end of July 1858. The greater

part of the Bengalee Mouzawar Registers of Pergunnahs Alumpore and Mamjoanee had been corrected up to the close of the year under report, and the rest are undergoing corrections. This work will, I apprehend, yet occupy a lengthened period.

11. The aggregate expenditure incurred in supporting both the Collectorate Ministerial Survey Establishments, and that of Major Smyth's late establishment for 12 months is detailed here, amounting to Rupees 5,666-0-8 as particularized in Statement No. 4, herewith annexed.

Major Smyth's late Establishment.

Deputy Collector's Office Establishment	...	...	...	...	1,373	7	7
Ditto Field Establishment	...	...	...	...	1,354	13	3
Contingencies	...	...	...	...	421	8	4
Superintendent's Office Establishment	...	...	...	...	1,001	5	4
Collector's Ministerial Establishment	...	...	...	...	4,151	2	6

Survey Establishment.

Office Establishment	...	...	...	...	...	1,464	10	8
Contingencies	...	...	...	...	...	50	3	6
Grand Total, Co.'s Rs.	...	...	...	...	...	5,666	0	8

12. With reference to para. 27, Major Smyth's Report 1856-57, to Board of Revenue's letter No. 254, dated 18th

1 Head Moonsee	30	Not drawn since November 1857.
1 English Writer	..	..	..	25
1 Record-keeper	..	..	..	20
Deputy Collector's Office Establishment	..	..	..	100
3 Peedahs under ditto at 3 each				9	

November 1857, and to Government letter No. 2,573, dated 30th April 1858, I beg to report that Major Smyth's late establishment is reduced to the

marginal strength.

13. In conclusion, I beg to state, that I continue to be well satisfied with the zeal and laboriousness displayed by Deputy Collector, Baboo Doorgapersaud Ghose, in charge of the Survey. No one could perform the work of the Survey with more care and painstaking, and I think too that fair progress has been made within the year, and trust that the Board will agree in the opinion.

I have, &c.,
(Signed) C. HOBHOUSE,
Officiating Collector of Burdwan.

No. 6.

To

THE SECRETARY TO THE BOARD OF REVENUE,
LOWER PROVINCES,
FORT WILLIAM,

Dated Mymensing, the 6th November 1858.

SIR,

I HAVE the honor to forward herewith the Annual Statements of the Mymensing Survey work for the year ending 30th September 1858.

2. The main part of the records reached me from Dacca on the 28th February 1858, accompanied by the Superintendent's Mohafez. Baboo Prankissen Roy and his establishment arrived shortly afterwards. The three extra Mohurirs whose entertainment was sanctioned for one year from the 11th September 1857, three Ameen and a writer were deputed from the Superintendent's office to assist in the register work, and in making over charge of the immense mass of maps and papers which had accumulated since the commencement of Survey operations in this enormous and most difficult District, containing between 7,000 and 8,000 Mehals, and in which the boundary disputes are counted by thousands.

3. The latter duty has not yet been completed and will take some time longer. Fresh lists have in many instances to be written out, and every paper has to be examined by my Record-keeper or his Assistants. There are also constant calls from the Civil Courts, &c., for the supply of cases and numerous applications for copies of maps and other documents. The Superintendent's own office being now however comparatively empty, the detention of his Record-keeper (whose presence here is quite essential) will not I hope cause any inconvenience.

4. To enable the Board to have a clear understanding of the work done and in progress, I beg to annex a Statement showing how the registers of each Pergunnah stood at the close of the year. In it also are noted the seasons during which the demarcation and survey of each Pergunnah took place, also the years in which the professional volumes were received from the Surveyor. Till the actual survey work had been thus thoroughly brought to a close, and till the internal mehalwar calculations had been effected by the Surveyor (which process was of course not carried out till after the professional survey of the villages requiring it) it was impossible to get through the register work.

5. The Board will observe that many of the Pergunnahs may be looked on as next thing to complete, and would have been entirely so but for unavoidable circumstances.

6. If I am furnished with the remaining records but very little of the vernacular part of the work should be incompleted by the middle of December, except in Hazradee where a number of small Mehals are missing. These must of course be traced out and laid down in the maps during the ensuing dry weather.

7. The work in that Pergunnah is of the most intricate nature. The area is but small, but it contains no less than 1,564 Mehals. The estates are extremely intermixed and the lands are very much scattered.

8. Nusseroojeal is the only Pergunnah which has not been taken in hand. This has arisen from the non-receipt of the necessary records. It will, however, I anticipate offer no difficulties.

9. I have as yet passed no formal decision with regard to the Northern boundary of the District. The claim on the part of the Rajah and Zemindars seems very indefinite, and they, have as yet failed to show that the hill forests in question form a portion of their perpetually settled estates.

10. They begged me to postpone my orders till after Mr. Hudson at Cherra Poonjee had decided on the claim, for the greater part of the same tract, brought against the Shooshung Zemindars by the Cossiah Hill Rajah. That case has been given against the Cossiah Rajah, but from an inspection of Mr. Hudson's orders, though the Cossiah claim is rejected, it by no means follows that the Shooshung claim is established.

11. I shall pass formal orders on the point as soon as the Courts re-open and the Agents of the parties are in attendance.

12. I have much pleasure in stating that Baboo Prankissen Roy has worked with much zeal and assiduity during the period he has been under me, and I beg to bring him to the favorable consideration of the Board. Trusting that the Board will be satisfied with the progress that he has made.

I have &c.,
(Signed) C. H. CAMPBELL,
Officiating Collector.

MEMORANDUM showing the condition of the uncompleted Registers of Zillah Mymensing.

Pergunnah.	Number of Villages.	Number of Mehals.	When demarcated and Surveyed.	Professional Volumes when received.	REMARKS.
1 Attia ...	1357	147	1850-56 ...	1852-56 ...	English and Bengalee Registers complete with the exception of 4 unsurveyed villages in Zillah Dacca. Some Government lands on the right bank of the Jummoona, within the boundary of the Northern Division, have also to be traced out. This was omitted to be done when the Northern Survey was in that part of the country. With reference to the great distance from the scene of their present operation I have (in concert with the Superintendent) undertaken to do the needful. It will be effected during the ensuing cold weather.
2 Cogmary ...	887	434	1850-55 ...	1852-55 ...	The Bengalee Mouzawaree has been written up with the exception of the entry of some areas which have to be copied in from the Professional Volumes. A few villages also remain for mehalwar calculation, and the nominal areas of some lands held ijmully have still to be calculated and entered. In the Bengalee Mehalwar, areas have not yet been entered.
3 Pookeerea ...	1322	582	1850-55 ...	1852-57 ...	Bengalee Mehalwar and Mouzawar complete, with the exception of 30 villages, of which the mehalwar calculation has to be effected. A few lands belonging to 6 Mehals have also still to be laid down, and three villages have to be surveyed in Zillah Dacca. The English Mouzawar has been begun.
4 Burabazoo ...	825	953	1850-55 ...	1853-55 ...	The Bengalee Mouzawar written up, with the exception of a few villages in Zillah Dacca, and some areas which have still to be entered. Some nominal areas of ijmully lands have also to be calculated. In the Bengalee Mehalwar, the areas have to be entered.
5 Bunbhowal ...	233	72	1853-55 ...	1854-56 ...	English and Bengalee Registers ready, with the exception of some villages in Zillah Dacca.
6 Allapsing ...	671	51	1853-56 ...	1854-57 ...	The Bengalee Mouzawar complete as far as possible. A number of maps have still to be received from Dacca and some admnishan cases remain for decision. The Bengalee Mehalwars are also in a very forward state.
7 Mymensing ...	1098	63	1854-56 ...	1856-57 ...	
8 Hosenshye ...	774	303	1853-56 ...	1856-57 ...	
9 Jowanshye ...	315	42	1855-56 ...	1857 ...	
10 Hazradi ...	360	1564	1855-57 ...	1857	The Mouzawar progressing—some villages of this Pergunnah in Zillah Dacca.
11 Hoosenpore ...	190	120	.....	.....	The Bengalee Mouzawar well on towards completion, some Maps have still to be received and some admnishan, &c., cases remain for decision.
12 Nussorojeal ...	690	787	1855-56 ...	1857	Registers not yet begun, but will, it is expected, offer no difficulties.
13 Kalinjooiry ...	92	4	1855-56 ...	1856-57 ...	English and Bengalee Registers ready, with the exception of two villages, the maps of which have still to be received from Dacca. There are also 5 boundary disputes still pending in this Pergunnah.
14 Luteofpore ...	41	3	1855-56 ...	1857	English and Bengalee Registers complete, with the exception of the areas of 8 villages, the maps of which have not yet come.
15 Sooshung ...	947	17	1855-57 ...	1857	The Bengalee Mouzawar and Mehalwar complete with the exception of 119 villages of which maps have still to be received from Dacca.
16 Sherepore ...	731	88	1856-57 ...	1857	Bengalee Mouzawar in progress, many maps still at Dacca.
17 Sagurdi ...	37	5	1850-57 ...	1857	Bengalee Registers ready, with the exception of 5 villages, of which the papers are still at Dacca, and 5 villages which are situated in the District of Dacca.
18 Kooreekhal ...	119	15	1855-57 ...	1857	English and Bengalee Registers complete, with the exception of some villages in Zillah Dacca.
19 Radoom ...	256	43	1856-57 ...	1857	Bengalee Register ready with the exception of 17 villages, the maps of which not yet been received. One small Mehal has also to be laid down.
20 Singdah ...	86	17	1854-56 ...	1856	Registers completed with the exception of 17 villages, the maps of which have not yet been received. A small Government Mehal has also to be laid down.

To

THE JUNIOR SECRETARY TO THE BOARD OF REVENUE,
CALCUTTA.

SIR,

I HAVE the honor to forward the Statement of non-professional expenses incurred for the 5th or Arracan Division Survey for Season 1857-58, drawn up agreeably to instructions contained in your letter No. 264 of the 23rd July 1858.

2. The tract of country demarcated and surveyed during 1857-58, contains 24 Keokships or Circles, portions of 9 Keokships and 5 Grants included in 183 hulkas. The area amounts to 1,452 square miles, 428 of low land near the Old Town of Arracan, and 1,024 of difficult hilly ground bordering on the Chittagong Frontier for 74 miles.

3. Before the Survey it was not known that a good natural boundary existed between Akyab and Chittagong. The dividing ranges of Hills which form the water shed of the different streams flowing North into Chittagong and South into Akyab define the boundary common to both Districts. The hill country adjoining the Frontier being uninhabited for several miles on both sides, the boundary was laid down with great difficulty from the absence of any paths or roads and the want of guides, who could only be procured from Villages of Hill dacoits naturally anxious that the tracts by which they proceeded on their plundering and murderous expeditions should not be known to others. About 60 miles of the Chittagong Frontier, and the entire Frontier on Ava remains to be surveyed.

4. The non-professional expenditure for the past season amounts to Company's Rupees 6,251-7-7 and gives an average rate of Rupees 4-4-9 per square mile. A comparison of the results of 1856-57 and 57-58 is shown below :—

Seasons.	Area in Square Miles.	No. of Hulkas.	Total Cost.	Average rate per Square Mile.	REMARKS.
1856-57	1,227	210	4,093 5 6	3 5 3	
1857-58	1,452	183	*6,251 7 7	4 4 9	*Includes 1,335-2-4 for feed of Elephants.
	+225	-27	2,158 2 1	0 15 6	

The total cost for 1856-57 does not include the charge for feed of Elephants, and the rate per square mile is in consequence a little higher.

5. As the Survey progresses every year, the Registers are brought up and lodged in the principal Assistant Commissioner's Office—152 Registers were completed during 1857-58. The circles and grants are in general compact, and there are no Mehalwar Chucks in Arracan.

I have, &c.,

(Signed) J. H. O'DONEL,
Revenue Surveyor.

ARRACAN DIVISION,
Revenue Surveyor's Office, Akyab, }
The 28th May 1859.

(True Copies)

(Signed) T. E. TREVOR,
Secretary.

BOARD OF REVENUE, L. P., }
Fort William; }
The 29th July 1859.