

# REPORT

ON THE

# SURVEY OPERATIONS

OF THE

# LOWER PROVINCES,

FROM

1ST OCTOBER 1859 TO 30TH SEPTEMBER 1860.

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Calcutta:

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1861.



FROM

H. L. DAMPIER, Esq.,

*Secretary to the Board of Revenue, Lower Provinces,*

TO

JUNIOR SECRETARY TO THE GOVERNMENT OF BENGAL.

LAND REVENUE:

H. Stainforth }  
and } Esqs.  
A. Grote }

*Dated FORT WILLIAM, the 1st March 1861.*

SIR,

I AM directed by the Board of Revenue to forward herewith the State-

Statement No. I.—Work performed in the Bengal Survey Superintendencies.  
Statement No. II.—Condition of the Demarcation Operations, including Khusreh.  
Statement No. III.—Condition of the Survey Registers.  
Statement No. IV.—Expenses incurred on account of the Bengal Survey Superintendencies.  
Letter from Deputy Surveyor General, dated 20th December 1860, No. 11, [to the address of the Secretary to the Government of Bengal] with Tables A, B, E and F.  
Letter from Superintendent of Survey, 1st Division, dated 10th November 1860, No. 379, with Statement No. 6.  
Letter from Officiating Superintendent, 2nd Division, dated 5th November 1860, No. 51.  
Letter from Superintendent, 3rd Division, dated 30th November 1860, No. 56.  
Letter from Superintendent, 4th Division, dated 1st November 1860, No. 256.  
Letter from Commissioner of Chota Nagpore, dated 3rd November 1860, No. 1566, with letter from Revenue Surveyor of Hazarebaugh to his address, dated 15th October 1860, No. 350.  
Letter from Commissioner of Arracan, dated 8th November 1860, No. 40, with letter from Revenue Surveyor to his address, dated 7th November 1860, No. 14.

ments and  
copies of  
Reports  
noted on  
the margin,  
relative to  
the Survey  
Operations  
of the year  
which ex-  
pired on

the 30th September last.

2. The Deputy Surveyor General's annexed Report shows that this Division has completed the topographical delineation of that part of Cooch Behar, 597½ square miles, which was left unfinished in 1858-59, as reported in the 3rd. para. of their Report for that year, at a cost of Rupees 3,624-8-0, averaging Rs. 6-1-1 per square mile. In addition to the above, this Division made a Mouzahwar Survey of 939 square miles in Dinagepore, at a cost of Rs. 28,109-13, averaging Rs. 29-14-10 per square mile.

1st DIVISION.  
*Professional.*

3. The cost of the aggregate area of 1,536½ square miles surveyed in Cooch Behar and Dinagepore amounts to Rs. 32,025-5-0, and the average rate per square mile to Rs. 20-13-5. The average cost of last year's operations was Rs. 19-6-2 only, but the excess rate is partly accounted for by Major Thuillier in para. 15 of his Report.

4. The total cost of the Division amounted to Rs. 33,748-7-0, a saving of Rs. 3,775-9-0 being thus effected from the maximum grant for the year.

5. For the field season of 1860-61, 660 square miles in Dinagepore have been assigned to this Division, which, after the completion of the Dinagepore District, will

proceed into Tipperah ; but it seems probable that the party will not be released from Dinagepore till next season.

6. The Board concur with Major Thuillier that the loss of Mr. Pemberton will be felt by the Department, and they regret to notice the reprehensible conduct of Mr. Smith, as reported in Major Thuillier's 24th para.

7. It is satisfactory to find so good a character given of the demarcation work in the Deputy Surveyor General's 18th para. The demarcation of the entire District had been completed in the previous season, in consequence of which the field establishment had been distributed amongst the other Divisions, with the exception of 3 Peshkars' parties who were employed during the year, in the internal demarcation of such estates in Rungpore and Dinagepore as were found to have been before omitted, and in repairing injuries to the Pubna records. Of the two Deputy Collectors attached to the Division at the beginning of the Survey year, one, Baboo Issen Chunder Dutt, was transferred to the 4th Division early in the season, and the other, Baboo Mohendernath Bose towards the close of the year.

*Demarcations, &c.*

Vide para. 7 of last Report.

8. The state of the file of boundary disputes and other descriptions of work, as shown in Statement No. I, is generally satisfactory.

9. The progress of the registry work is also favorable. Three Rajshahye Pergunnahs remained incomplete for incorporation of particulars to be gathered from the Dinagepore records in the course of the compilation of the Registers of that District. The Pubna Registers required a few final entries to render them complete, and those of Bograh have been completed since the close of the year. The bulk of the remaining work in this Department is connected with the recently surveyed Districts of Rungpore and Dinagepore. The Board are satisfied with Mr. Grey's exertions in this Department, and they believe that his appointment to officiate as Collector of Dinagepore will not prove prejudicial to the steady progress of the registry work.

10. The arrear work in this Division, consisting of discrepancies between the field results and the Collector's lists, brought to light in the course of completion of the Registers, and requiring to be reconciled, was as follows:—

| Districts.        | On File. | Struck off. | Disposed of. | Remaining. |
|-------------------|----------|-------------|--------------|------------|
| Rajshahye ... ..  | 3        | 0           | 0            | 3          |
| Pubna ... ..      | 446      | 329         | 1            | 116        |
| Bograh ... ..     | 14       | 6           | 6            | 2          |
| Rungpore ... ..   | 11       | 10          | 1            | 0          |
| Dinagepore ... .. | 4603     | 3713        | 319          | 571        |

11. The aggregate expenditure of the year amounted to Rs. 38,811-5-6½, the details of which are shown in Statement No. 4.

12. This Division party, under Captain Sherwill, accomplished an area of 873½ square miles in Dinagepore, at a cost of Rs. 37,010-2-10, being at the rate of Rs. 42-5-11 per square mile (exclusive of contingent charges), or Rs. 10-3-8 below the rate of the previous season. The area though considerably in excess of that of last year (662 square miles), is still comparatively small. This result is accounted for by the small size of the villages, and the sickness produced by the unhealthy climate of the District to which this party has so long been exposed. The total expenditure amounted to Rs. 38,732-9-0, exceeding the grant by Rs. 1,208-9-0.

13. Mr. Deputy Collector Davey, who was in charge of 7 Peshkars' parties before the arrival of the Superintendent in February, demarcated during the season between 600 and 700 square miles in the new District of Tipperah, a sufficient area for so small a party.

14. The Collector's lists of Mehals in this District are stated to be so well prepared, that little difficulty is expected in the compilation of the Registers.

15. The state of the file of boundary disputes is considered unsatisfactory by the Superintendent, and his remarks are not creditable to Mr. Davey; but as the professional Survey is not likely to commence operations in Tipperah this season, there is ample time to work off arrears without strengthening the Division by the addition of a Deputy Collector and 10 Ameens, as proposed by the Superintendent.

16. The Registers of Bancoorah have been completed and made over to the Collector. The Burdwan Registers are in abeyance on account of some 900 villages outlying in Hooghly, the survey records of which District being incomplete shewed no mention of them. An establishment of 1 Peshkar and 4 Ameens was sanctioned last year for the special work of tracing out these Mehals, and succeeded in finding out 336 of them. A similar special establishment to be charged to the savings of the Division, has also been sanctioned for the field season of 1860-61. In addition to the above 900 villages, 206 villages occur in excess of the Collector's lists, and the investigations connected with these will delay the completion of the Registers. Fifty-nine Bengalee Mouzahwar Registers however (out of 71 Pergunnahs) and 23 Mehalwar are reported complete, as well as 45 English Mouzahwar Registers.

17. Paras. 5, 6 and 7 of the orders of Government on the last report expressed dissatisfaction with the progress made in the compilation of the Bancoorah Registers, and with the explanations which the Board had given in regard to them. Apparently the technical term of "towjee nikas" was misunderstood by Government. This process does not, as supposed in para. 6 of the orders in question, form the earliest step in conducting a survey; it is the last, for, after its completion the compilation of the Registers is merely mechanical work. Mr. Hobhouse's letter No. 1250, dated 2nd March 1860, which was annexed to the Board's last Report stated that these Registers had "since been completed."

18. The expense incurred in this Division, including that of the branch office at Burdwan, amounted to Rs. 30,355-13-2.

19. By "towjee nikas" Survey Superintendents mean the process of taking up each estate by its number on the rent roll, going through its constituent villages, and identifying them on the thakbust lists. Enquiries have then to be made regarding villages which are either wanting, or in excess of those on the rent roll. Further enquiry will bring to light many of the missing villages under another name, and will as often show names in excess of those on the Collector's books, to be merely second names of villages already accounted for. Till this process is gone through, it is not safe to commence with the registry.

20. In this Division Mr. N. T. Davey, surveyed 1,062½ square miles in Dacca at a cost of Rs. 31,790-11-7, giving an average rate of Rs. 29-14-10 per square mile, or Rs. 11-10-8 less than in the previous season. The average size of the villages was less than half a square mile, and a larger area would probably have been obtained, but for the obliteration of the field marks in a country so subject to annual inundation. The Dacca District as far as the Ganges was thus completed, the small area beyond that river being taken up by the 4th Division. The saving amounts to Rs. 4,147-3-3.

3RD DIVISION.  
*Professional.*

21. The demarcations which lay in Sylhet, were found to be so intricate that the Board were constrained to allow a departure, on this occasion, from the rule which requires all the interior work to be completed before the thakbusts are made over to the Surveyor. They directed that this work should be left to be brought up subsequently as fast as the available agency might permit, the present operations being confined to the demarcation of the external boundaries of villages. Without some such provision, the professional parties might, the Board feared, be retarded by want of sufficient area. No less than 84,648 Mehalwar chucks had to be demarcated, and 3 villages measured by khusreh were found to contain no less than 1,115 plots. But so well was the work brought up, that in only 478 of the total number of 2,126 hulkahs containing 4,280 villages, taken up in the season, were the external demarcations left to be completed at its close. The field prepared for the Surveyor is estimated to contain 1,492 square miles.

22. The Superintendents are at liberty to substitute khusreh measurements for mehalwar demarcations where they think it expedient to do so, and possibly in Sylhet, the latter process may have been carried too far, and the former might have proved a preferable, if not less expensive mode of procedure.

23. Under the improved system introduced by the late Mr. Spencer, the boundary disputes have diminished from 6,020 in 1857-58, and 1,959 in 1858-59, to 154 in the year of report, the whole of which were speedily disposed of. The files of izad and miscellaneous cases were in a satisfactory state, and the pending appeals though apparently disproportionately large, were mostly instituted at the end of the year. Some disputes have arisen regarding the boundary of Sylhet and Independent Tipperah, for the disposal of which Mr. Reynolds was appointed Arbitrator on the part of Government, by Government Order No. 2707, dated 26th September last. The Rajah of Tipperah has been called upon to name an Arbitrator, but the Board have not as yet received intimation of his having done so.

24. It is satisfactory that the difficulties which have attended the compilation of the Registers elsewhere, are not likely to occur in Sylhet, owing to the compactness of the pergunnahs in this District and the completeness of the Collectorate lists. The work however will be one of great labor, owing to the large number of estates. The Dacca registry work suffered much in consequence of the change of hands through which it had to pass, as described in the Superintendent's 3rd para. Only 5 Pergunnahs have been completed in all respects, and the Towjee nikas of 14 more gone through. Further progress was prevented by the non receipt of professional areas. The obstructions before noticed in the 29th para. of the Board's last Report, they regret to state, still continue to be experienced. Revised lists of 112 Pergunnahs have still to be received from the Collector.\* The tracing of the numerous mehals unaccounted for by the survey is also expected to cause much delay and trouble, many of them may however come to light within the fiscal limits of Tipperah, when that District comes under survey, till which time the completion of the Dacca registers must be in abeyance. Another difficulty in the registry work is, that some 450 mehals borne on the Collector's books are not recorded as belonging to any recognized pergunnah Division. These will have to be separately registered after enquiries as "no pergunnah" mehals.

25. All the Bengalee registers of Mymensing are reported to be complete, together with 16 mouzahwar and 14 mehalwar English registers, leaving 10 mouzahwar and 12 mehalwar to be finished. These last being little more than mere translations of the vernacular originals, ought to progress rapidly. The Board learn from the Collector's letter that there are 4 pergunnahs of this District outlying in Dacca and Tipperah, which have not yet come under survey.

26. The arrangements for the current season are described in the Superintendent's 14th para.

27. During the year, steps have been taken to remedy the defective nature of the lists supplied to the Superintendent of the 3rd Division from the Dacca Collectorate, noticed in the 9th para. of the Lieutenant-Governor's resolution. When the survey commenced operations in the District, it appeared that the lists which had been prepared by the Collector at the expense of considerable cost, were of estates only. These were pronounced by the Superintendent, (Mr. Spencer,) to be useless for his purposes, and fresh lists had to be prepared showing particulars of pergunnahs. These were drawn up chiefly by survey Ameens of the Superintendent, who were deputed to assist the Collectorate Amlah. The incorrectness of the lists so drawn up is attributable partly to the haste with which they were compiled, partly to the very imperfect nature of the information existing in the records of the Dacca Collectorate, and partly to the lax supervision over their preparation by the Officers of the Dacca Collectorate. The Board adopted Mr. Spencer's suggestion for the thorough revision of these lists, which was commenced by some survey Ameens under the immediate superintendence of the Collector and his record-keeper. The Superintendent of survey expressed his entire satisfaction at the mode in which the revision was being made; and the Collector has reported its completion by the extra establishment which was sanctioned by Government Order No. 2308, dated 24th September last. The Board hope that the revised lists

\* The Board have since been informed that these lists were taken away by the late Baboo Joy Chunder Mojoondar, Deputy Collector. The matter is under inquiry.

will be of as much assistance in the preparation of the survey registers as any which can be compiled from the imperfect information to be collected from the Dacca records.

28. In this Division, Captain Gastrell completed an area of 1,477½ square miles in the three Districts of Dacca, Furreedpore and Backergunge, at a cost of Rupees 35,867-11-1 or Rupees 24-4-3 per square mile, being Rupees 1-12-7 less than in the previous season. If the sum disbursed on contingencies be taken into account, the total expenditure will amount to Rupees 38,672-3-1, or Rupees 1,148-3-1 beyond the annual grant. The field prepared for this party in Backergunge is expected to occupy two whole seasons.

29. The demarcation of the remaining portion of Backergunge was completed during the season, except two churs which were under water. The estimated area is 2,000 square miles, containing 2,251 villages with 37,147 mehalwar chucks, which must be considered a very favorable result in a country intersected by tidal creeks.

30. The boundary dispute and appeal files were in a satisfactory state, but the number of other cases undisposed of was large.

31. Forty-three Jessore and 16 Pubna and Furreedpore registers were completed during the year, and fifteen more belonging to the three Districts were expected to be ready by the close of the first quarter. Mr. Morris gave much attention to this department of the work during his tenure of the superintendentship, and, as so large an area has been prepared for the surveyor, there will be nothing left this year for his successor, but the prosecution of the registry work, and the conduct of the miscellaneous enquiries to which the latter must give rise.

32. The remarks in para. 13 of the Superintendent's Report will be noticed as bearing out the observation made above in paras. 18 and 19 in connexion with the Towjee Nikas process and the correct compilation of the registers.

33. The expense incurred during the year in this branch amounted to Rupees 81,975-4-6, as shewn in Statement No. 4. This expenditure will be much diminished next year, in consequence of the transfer of a Deputy Collector (Ahsan Ahmed) to Behar, and another (Ramgovind Roy,) with 1 Peshkar and 10 Ameens to the 3rd Division, and the dismissal of 4 Peshkars' parties, whose services were no longer required. There remain in this Division 7 Peshkars and 80 Ameens for the local enquiries required for the purposes above alluded to.

34. Mr. O'Donel succeeded in the course of a season of only four months' duration, notwithstanding the difficulties presented by the mountainous nature of the ground, in



accomplishing an area of 2,370 square miles, at a cost of Rupees 34,340-13-2, yielding a rate per square mile of Rupees 14-7-10 or Rupees 5-1-8 below that of the previous season, when an area, less by nearly 866 square miles, was surveyed. Of the sum of Rupees 8,420 sanctioned by Government in September last, for presents to the hill Chiefs and other purposes, Rupees 5,343-5-4 was disbursed, the contingent expenses incurred on the keep of elephants and cutting jungle amounted to Rs. 6,927-5 more. If these amounts be debited to the survey, the total expense will aggregate Rs. 46,611-7-6, producing an average of Rs. 19-10-7 per square mile. In addition to the above sums, Rs. 1,488-12-10 was expended for demarcation purposes.

35. The Board concur with Major Thuillier in thinking Mr. O'Donel deserving of great credit for the tact and good management evinced by him in carrying on his operations in a country inhabited by wild tribes.

36. The survey was, for the most part, topographical. In the vicinity of Akyab, where cultivation occurs, the native measurements bore the test of the professional survey better than could have been expected. In only four villages did the difference exceed 10 per cent.

37. The southern and western portions of the Akyab District remain for the present season, and after the completion of these, the District of Sandoway will come under survey by this party. The Board would direct His Honor's special attention to Mr. O'Donel's very interesting Report on the year's operations, annexed to the Commissioner's letter.

38. In this Division, Captain Thompson triangulated an area of 1,259 square miles prior to survey, of which 943 square miles was surveyed mouzahwar. The operations lay on the north of the Grand Trunk Road, adjoining the Behar Province. A special survey of the road for 136 miles and of the cantonments and Station of Hazareebaugh was also made on a large scale. The expense aggregated Rs. 37,677-1-11 or Rs. 153-1-11 in excess of the annual maximum grant, the difference being met out of the general savings. The rate per square mile on this amount is Rs. 39-15-2, or if the further sum of Rs. 1,817-7 expended on contingencies be taken into account, Rs. 41-14 per square mile. The area surveyed is not so large as was expected, owing to the impediments to progress caused by working through heavy jungle. The relinquishment of the mouzahwar survey in accordance with Government Orders, dated the 28th December last, No. 4008 A will, no doubt, facilitate progress, and reduce the present high rate. An area of 1,700 square miles, by a rough calculation, is expected this season.

39. In this Division, the demarcations are conducted under the same superintendence as the survey. The small establishment of 2 Peshikars and 12 Amceens entertained for this purpose completed the Khuruckdea Elaka and the Burhee Sub-division, comprising in all 2,477 villages, as well as 790 villages of Pergunnah Palamow. The area is estimated at 2,500 square miles.

40. The boundary disputes were not numerous, and the statistical registers of *gades* or estates were being prepared by Captain Thompson on a plan of his own which appears to the Board to be very full and complete. The expenses of this branch amounted to Rs. 5,747-1-6.

41. The following is an Abstract of the results of the past two years. The contingent expenses are included in the cost of both the professional and non-professional branches :

| DIVISIONS.         | Years.       | PROFESSIONAL.         |              |                       | NON-PROFESSIONAL.     |              |                       |
|--------------------|--------------|-----------------------|--------------|-----------------------|-----------------------|--------------|-----------------------|
|                    |              | Area in square miles. | Cost.        | Rate per square mile. | Area in square miles. | Cost.        | Rate per square mile. |
| 1st. ... ..        | 1858-59, ... | 1630-26               | Rs. 32,922   | Rs. 20 3 2            | 3,000                 | Rs. 71,507   | Rs. 23 13 1           |
|                    | 1859-60, ... | 1530-39               | " 33,748     | " 21 15 4             | 0                     | " 38,811     | 0 0 0                 |
|                    | Difference,  | - 93-67               | + 826        | + 1 12 2              | - 3,000               | - 32,696     | 0 0 0                 |
| 2nd. ... ..        | 1858-59, ... | 662-18                | Rs. 36,658   | Rs. 55 5 9            | 0                     | Rs. 7,715    | Rs. 0 0 0             |
|                    | 1859-60, ... | 873-44                | " 38,733     | " 44 5 6              | 650                   | " 30,356     | " 46 11 3             |
|                    | Difference,  | + 211-26              | + 2,075      | - 11 0 3              | + 650                 | + 22,641     | 0 0 0                 |
| 3rd. ... ..        | 1858-59, ... | 730-30                | Rs. 31,689   | Rs. 43 6 3            | 1,222                 | Rs. 77,878   | Rs. 63 10 4           |
|                    | 1859-60, ... | 1062-24               | " 33,377     | " 31 6 8              | 1,492                 | " 85,264     | " 57 2 4              |
|                    | Difference,  | + 331-94              | + 1,688      | 11 15 7               | + 270                 | + 7,386      | - 6 8 0               |
| 4th. ... ..        | 1858-59, ... | 1381-57               | Rs. 37,481   | Rs. 27 2 0            | 1,270                 | Rs. 66,079   | Rs. 52 0 6            |
|                    | 1859-60, ... | 1477-15               | " 38,672     | " 26 2 9              | 2,000                 | " 81,975     | " 40 15 10            |
|                    | Difference,  | + 95-88               | + 1,191      | - 0 15 3              | + 730                 | + 14,417     | - 11 0 8              |
| Aracau, ... ..     | 1858-59, ... | 1504-33               | Rs. 30,857   | Rs. 20 8 2            | 1,504                 | Rs. 7,958    | Rs. 5 4 8             |
|                    | 1859-60, ... | 2370-19               | " 34,631     | " 14 9 9              | 2,370                 | " 13,469     | " 5 10 11             |
|                    | Difference,  | + 865-86              | + 3,774      | - 5 14 5              | + 866                 | + 5,511      | + 0 6 3               |
| Chota Nagpore, ... | 1858-59, ... | 223-80                | Rs. 28,512   | Rs. 127 6 6           | 1,500                 | Rs. 3,190    | Rs. 2 2 0             |
|                    | 1859-60, ... | 943-14                | " 39,495     | " 41 14 0             | 2,500                 | " 5,747      | " 2 4 9               |
|                    | Difference,  | + 719-34              | + 10,983     | - 85 8 6              | + 1,000               | + 2,557      | + 0 2 9               |
| Total, ... ..      | 1858-59, ... | 6132-41               | Rs. 1,08,119 | Rs. 32 4 11           | 8,496                 | Rs. 2,34,127 | Rs. 27 8 11           |
|                    | 1859-60, ... | 8263-05               | " 2,15,656   | " 26 1 7              | 9,012                 | " 2,55,622   | " 28 5 10             |
|                    | Difference,  | + 2130-61             | + 17,537     | - 6 3 4               | + 516                 | + 21,495     | + 0 12 11             |

42. The increased cost in the professional Department is compensated by the larger area surveyed, thereby reducing the mileage rate, except in the 1st Division, where the increased rate is too small to require notice. As regards the non-professional branch, no fair comparison can be made of the two years in the 1st and 2nd Divisions, there having been demarcation work in one only of the two years. The heavy cost of the 3rd Division is somewhat reduced, but the rate will continue to be high on account of the large field establishment required there. That of the 4th Division will be less next year, as only registry work will remain to be done.

43. The savings of the professional branch, after defraying all charges, amounted to Rs. 8,642-10-0. In the non-professional Department, the sum of Rs. 14,623-12-10 remained unexpended.

44. The following Memo. shews what Districts of the Regulation Provinces have not yet been surveyed professionally. Hooghly also remains for re-survey.

| Districts.       | Demarcation.  | Professional Survey.  |
|------------------|---|---|
| Backergunge, ... | Completed in 1859-60, ...   | Expected to be completed in 1861-62.                          |
| Dinagopore, ...  | Completed in 1858-59, ...   | Expected to be completed in 1860-61.                          |
| Tipperah, ...    | { Under demarcation ; will probably be finished in 1861-62, ... } | Not commenced ; will probably be completed in 1862-63.        |
| Sylhet, ...      | { Under demarcation ; will probably be finished in 1862-63, ... } | Commenced in 1860-61 ; will probably be completed in 1863-64. |
| Bullooah, ...    | { Not commenced—a strong party may do it in one year, ... }       | Not commenced.  |

Jynteah and Cachar, which were surveyed more than 20 years ago, will fall within the range of operations of the Sylhet party.

45. Major Thuillier, as will be seen by his report, is well satisfied with all the Revenue Surveyors, and considers that they have acquitted themselves creditably. The Assistants are also generally mentioned with approval, excepting Mr. R. Smith, referred to in para. 6 above. The Board consider Major Thuillier's efficient administration of the important Department over which he has so long presided as deserving of the special notice of Government in any orders which this Report may call for. The services done by the professional Officers, and the share which they have taken in forwarding the progress of the Revenue survey, have not perhaps hitherto received that prominent recognition which they may fairly claim.

46. The Board are quite satisfied with the manner in which the several Superintendents of survey have performed their duties. Mr. Reynolds was especially noticed in a Report which they had occasion to submit to Government on 4th September last, No. 493. The Deputy Collectors are all favorably mentioned. The Board have recommended some of them for promotion in their last Land Revenue Report.

47. In conclusion, and with reference to paras. 12 and 15 of the Lieutenant-Governor's orders on the last Report, I am desired to add that the Survey Series which was issued a year ago, contains all the rules which it appeared to the Board to be necessary to prescribe for the guidance of Survey Officers on the Civil branch. If these rules are followed, boundary disputes, though they may be numerous, can never be long under disposal. Those in the 3rd Division, it will have been seen from the preceding brief notices of them, as well as from Statement No. 1, are by no means numerous; and the delay on the part of Mr. Davey in disposing of those in the 2nd Division, has been noticed by the Superintendent, in a way that will doubtless ensure their early decision.

I have the honor to be,

SIR,

Your most obedient Servant,

(Signed) H. L. DAMPIER,

Secretary.

## Work performed in the Bengal Survey

| 1.   | 2.  | 3.   | 4.   | 5.  |
|--|---|--|--|---|
| DIVISION.  | Districts in which operations are in progress.                                  | Names of Officers.   | No. of villages demarcated, as shown in Col. 5, Statement No. 2. | No. of completed Thakbusts made over to the Revenue Surveyor. |
| 1st or Northern Division.  | Rajshahye ...   |  |  |   |
|  | Pubna, ...  | Mr. E. Grey, Superintendent, ... ..  | 0  | 5918  |
|  | Bograh, ...   | Mr. J. F. Browne, Assistant, to Feb. 1860, ... ..  | 0  | 0   |
|  | Rungpore, ...   | Baboo Mohindernath Bose, Deputy Collector, ... ..  | 0  | 0   |
|  |   | Baboo Issenchunder Dutt, Deputy Collr. to 5th Jan. 1860, ... ..                          | 0  | 0   |
|  | Total ... ..  | 0  | 5918   |   |
| 2nd or Southern Division.  | Bancoorah, ...  | Mr. H. A. Cockerell, Superintendent from 22nd Sept. to end of Dec. 1859, ... ..          | 0  | 0   |
|  | Burdwan, ...  | Mr. J. F. Browne, Offg. Superintendent from end of February 1860, ... ..                 | 0  | 0   |
|  | Tipperah, ...   | Mr. W. Davey, Deputy Collector, ... ..   | 1368   | 0   |
|  | Total ... ..  | 1368   | 0  |   |
| Collector of Burdwan.  | Bancoorah, ...  | Mr. H. B. Lawford, Offg. Collector of Burdwan, from January to April 1860, ... ..        | 0  | 0   |
|  | Burdwan, ...  | Mr. E. G. Birch, Collector, from May 1860, ... ..  | 0  | 0   |
|  |   | Baboo Doorgapersad Ghose, Deputy Collector, ... ..                                       | 0  | 0   |
|  | Total ... ..  | 0  | 0  |   |
| 3rd or Eastern Division.   | Dacca, ...<br>Sylhet, ...   | Mr. W. C. Spencer, Supdt. 1858 to 3rd Dec. 1859, ... ..                                  | 0  | 2304  |
|  |   | Mr. H. J. Reynolds, Assistant, in charge, from 4th Dec. 1859 to 2nd April 1860, ... ..   | 0  | 18  |
|  |   | Mr. G. G. Morris, Supdt. from 3rd April to 1st July 1860, ... ..                         | 0  | 0   |
|  |   | Mr. H. J. Reynolds, Supdt. from 2nd July, ... ..   | 0  | 0   |
|  |   | Mr. H. J. Reynolds, Assistant, to 1st July 1860, ... ..                                  | 829  | 0   |
|  |   | Mr. F. Jones, Assistant from 4th to 16th Sept. 1860, ... ..                              | 0  | 0   |
|  |   | Baboo Brojosoonder Mitter, Deputy Collector, ... ..                                      | 686  | 0   |
|  |   | Baboo Satkauree Roy, Deputy Collector, ... ..  | 611  | 0   |
|  |   | Baboo Joychunder Mojoondur, to 23rd Jan. 1860, ... ..                                    | 0  | 0   |
|  |   | Baboo Tarracknath Ghose, Deputy Collr. from 22nd May, ... ..                             | 0  | 0   |
|  | Total ... ..  | 2126   | 2322   |   |
| Collector of Mymensing.  | Mymensing,  | Mr. J. D. Ward, Officiating Collector, to Dec. 1859, ... ..                              | 0  | 0   |
|  |   | Mr. A. Abercrombie, Collector, from January 1860, ... ..                                 | 0  | 0   |
|  |   | Baboo Prankissen Roy, Deputy Collector, ... ..   | 0  | 0   |
|  | Total ... ..  | 0  | 0  |   |
| 4th or Western Division.   | Moorshedabad, ...<br>Jessore, ...<br>Furreedpore,<br>Backergunge,<br>Pubna, ... | Mr. G. G. Morris, Superintendent, to 20th March 1860, ... ..                             | 0  | 0   |
|  |   | Mr. W. J. Money, Superintendent, from 21st March 1860, ... ..                            | 0  | 2086  |
|  |   | Mr. R. H. M. Warrand, Assistant, ... ..  | 228  | 0   |
|  |   | Mr. Metcalfe, Deputy Collector, to 11th March 1860, ... ..                               | 273  | 0   |
|  |   | Baboo Tarrucknath Ghose, Depy. Collr., to 16th May 1860, ... ..                          | 833  | 0   |
|  |   | Moolvee Ahsan Ahmed, Deputy Collector, ... ..  | 662  | 0   |
|  |   | Baboo Joychunder Gooho, Deputy Collector, from 12th March to 18th September 1860, ... .. | 255  | 0   |
| Baboo Issenchunder Dutt, Depy. Collr. from 6th Jan. 1860, ... .. | 0   | 0  |  |   |
|  | Total ... ..  | 2251   | 2086   |   |

I.

Superintendencies, from 1st October 1859 to 30th September 1860.

| 6.                                |              |          | 7.                                |              |          | 8.                                |              |          | 9.   |              |          | 10.   |              |          |
|-----------------------------------|--------------|----------|-----------------------------------|--------------|----------|-----------------------------------|--------------|----------|--|--------------|----------|---|--------------|----------|
| Boundary disputes.                |              |          | Izad and Adumni-<br>shan Cases.   |              |          | Duplicates of Maps.               |              |          | Miscellaneous cases<br>not embraced in<br>foregoing columns. |              |          | Appeals from decisions<br>of Deputy Collectors. |              |          |
| On the file dur-<br>ing the year. | Disposed of. | Pending. | On the file dur-<br>ing the year. | Disposed of. | Pending. | On the file dur-<br>ing the year. | Disposed of. | Pending. | On the file dur-<br>ing the year.                            | Disposed of. | Pending. | On the file dur-<br>ing the year.               | Disposed of. | Pending. |
| 5                                 | 4            | 1        | 347                               | 244          | 103      | 0                                 | 0            | 0        | 910  | 624          | 286      | 70  | 68           | 2        |
| 6                                 | 5            | 1        | 99                                | 36           | 63       | 1                                 | 1            | 0        | 58   | 16           | 42       | 0   | 0            | 0        |
| 65                                | 57           | 8        | 330                               | 256          | 74       | 12                                | 12           | 0        | 325  | 282          | 43       | 0   | 0            | 0        |
| 1                                 | 0            | 1        | 49                                | 11           | 38       | 5                                 | 5            | 0        | 170  | 70           | 100      | 0   | 0            | 0        |
| 77                                | 66           | 11       | 825                               | 547          | 278      | 18                                | 18           | 0        | 1463   | 992          | 471      | 70  | 68           | 2        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 1990   | 1990         | 0        | 7   | 7            | 0        |
| 0                                 | 0            | 0        | 4                                 | 4            | 0        | 0                                 | 0            | 0        | 131  | 92           | 39       | 31  | 25           | 6        |
| 323                               | 216          | 107      | 21                                | 9            | 12       | 1280                              | 1280         | 0        | 233  | 177          | 56       | 0   | 0            | 0        |
| 323                               | 216          | 107      | 25                                | 13           | 12       | 1280                              | 1280         | 0        | 2354   | 2259         | 95       | 38  | 32           | 6        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0  | 0            | 0        | 0   | 0            | 0        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0  | 0            | 0        | 0   | 0            | 0        |
| 0                                 | 0            | 0        | 4                                 | 4            | 0        | 5                                 | 5            | 0        | 63   | 43           | 20       | 0   | 0            | 0        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0  | 0            | 0        | 0   | 2            | 0        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0  | 0            | 0        | 0   | 16           | 0        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 78   | 23           | 0        | 94  | 4            | 0        |
| 0                                 | 0            | 0        | 851                               | 697          | 0        | 0                                 | 0            | 0        | 0  | 42           | 12       | 0   | 47           | 25       |
| 79                                | 79           | 0        | 132                               | 94           | 38       | 0                                 | 1243         | 0        | 321  | 313          | 8        | 0   | 0            | 0        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0  | 0            | 0        | 0   | 0            | 0        |
| 31                                | 31           | 0        | 125                               | 125          | 0        | 0                                 | 1182         | 0        | 95   | 95           | 0        | 0   | 0            | 0        |
| 43                                | 43           | 0        | 581                               | 580          | 1        | 0                                 | 911          | 0        | 158  | 151          | 7        | 0   | 0            | 0        |
| 0                                 | 0            | 0        | 26                                | 26           | 0        | 0                                 | 0            | 0        | 41   | 41           | 0        | 0   | 0            | 0        |
| 1                                 | 1            | 0        | 691                               | 691          | 0        | 0                                 | 0            | 0        | 591  | 462          | 129      | 0   | 0            | 0        |
| 154                               | 154          | 0        | 2406                              | 2367         | 39       | 0                                 | 3336         | 0        | 1284   | 1128         | 156      | 94  | 69           | 25       |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 10   | 10           | 0        | 2   | 2            | 0        |
| 0                                 | 0            | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 6  | 6            | 0        | 11  | 11           | 0        |
| 0                                 | 0            | 0        | 504                               | 504          | 0        | 0                                 | 0            | 0        | 36   | 36           | 0        | 0   | 0            | 0        |
| 0                                 | 0            | 0        | 504                               | 504          | 0        | 0                                 | 0            | 0        | 52   | 52           | 0        | 13  | 13           | 0        |
| 0                                 | 0            | 0        | 564                               | 62           | 0        | 0                                 | 0            | 0        | 1278   | 131          | 0        | 150   | 29           | 0        |
| 0                                 | 0            | 0        | 0                                 | 62           | 450      | 0                                 | 0            | 0        | 0  | 898          | 249      | 0   | 100          | 21       |
| 18                                | 18           | 0        | 197                               | 184          | 13       | 385                               | 385          | 0        | 377  | 345          | 32       | 0   | 0            | 0        |
| 10                                | 10           | 0        | 0                                 | 0            | 0        | 0                                 | 0            | 0        | 75   | 75           | 0        | 0   | 0            | 0        |
| 23                                | 23           | 0        | 118                               | 118          | 0        | 0                                 | 0            | 0        | 834  | 834          | 0        | 0   | 0            | 0        |
| 98                                | 84           | 14       | 550                               | 260          | 290      | 2139                              | 2139         | 0        | 1421   | 1180         | 241      | 0   | 0            | 0        |
| 45                                | 45           | 0        | 3                                 | 3            | 0        | 607                               | 607          | 0        | 335  | 335          | 0        | 0   | 0            | 0        |
| 67                                | 67           | 10       | 1105                              | 170          | 935      | 0                                 | 0            | 0        | 474  | 259          | 215      | 0   | 0            | 0        |
| 261                               | 237          | 24       | 2537                              | 849          | 1688     | 3131                              | 3131         | 0        | 4794   | 4057         | 737      | 150   | 129          | 21       |

H. L. DAMPIER, Secretary.

No. II.

CONDITION of the Demarcation Operations, including *Khusreh*, in the Bengal Survey Superintendencies, from 1st October 1859 to 30th September 1860.

| 1.<br>DIVISION.  | 2.<br>Incomplete Villages remaining from last season. | 3.<br>Villages taken up this year. | 4.<br>Total in hand during the year. | 5.<br>COMPLETED EXTERNALLY & INTERNALLY DURING THE YEAR. |                       |                          |        | 6.<br>Remaining in hand to be completed next year. | 7.<br>REMARKS.  |
|------------------|---|------------------------------------|--------------------------------------|--|-----------------------|--------------------------|--------|--|---|
|                  |   |                                    |                                      | By Khusreh.  | By internal Plotting. | By internal Demarcation. | Total. |  |   |
| 1st Division ... | .....   | .....                              | .....                                | ...  | .....                 | .....                    | .....  | .....  |   |
| 2nd Division ... | .....   | 1368                               | 1368                                 | 1  | 177                   | 1190                     | 1368   | .....  | The village measured by Khusreh contained 622 daghs. and those plotted internally comprised 4,006 chucks.   |
| 3rd Division ... | .....   | 2126<br>Hulkas                     | 2126                                 | 3  | 1278                  | 845                      | 2126   | .....  | The villages internally demarcated contained 84,648 chucks, and the 3, measured by Khusreh, comprised 1,115 daghs within an area of 778 beegahs. Of the 845 hulkahs exteriorly demarcated, 478 remained for internal demarcation in the rainy season. |
| 4th Division ... | .....   | 2251<br>in 2117<br>Hulkas          | 2251                                 | 4  | 1121                  | 1126                     | 2251   | .....  | The villages internally demarcated contained 37,147 chucks, and those measured by Khusreh 3,175 daghs, of the average area of nearly 1 beegah.  |

## CONDITION of the Survey Registers in the Bengal Survey Superintendencies, from 1st October 1859 to 30th September 1860.

| 1.<br>DIVISION. | 2.<br>DISTRICTS.  | 3.<br>Number of Pergunnahs in which Survey has been completed. | MEHALWAR.   |  |                  |   |                |                          |   |   |  |                  |   |                |                          |   | MOUZAWAR.   |  |                  |   |                |                          |   |   |  |                  |   |                |                          |   | 28.<br>REMARKS. |     |      |            |
|-----------------|-------------------|--|---|--|------------------|---|----------------|--------------------------|---|---|--|------------------|---|----------------|--------------------------|---|---|--|------------------|---|----------------|--------------------------|---|---|--|------------------|---|----------------|--------------------------|---|-----------------|-----|------|------------|
|                 |                   |  | ENGLISH.  |  |                  |   |                |                          |   | BENGALEE.   |  |                  |   |                |                          |   | ENGLISH.  |  |                  |   |                |                          |   | BENGALEE.   |  |                  |   |                |                          |   |                 |     |      |            |
|                 |                   |  | 4.  | 5.   | 6.               | 7.  | 8.             |                          | 9.  | 10.   | 11.  | 12.              | 13.   | 14.            |                          | 15.   | 16.   | 17.  | 18.              | 19.   | 20.            |                          | 21.   | 22.   | 23.  | 24.              | 25.   | 26.            |                          | 27.   |                 |     |      |            |
|                 |                   |  | 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 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 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 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 Registers of the preceding column. |                 |     |      |            |
| 1ST DIVISION    | Rajshahye, ...    | 44   | 40  | 0  | 40               | 10205   | 1              | 3                        | made 3634   | to be made Not known                                | 40   | 1                | 41  | 13839          | 0                        | 3   | 0   | Not known                                  | 40               | 0   | 40             | 9329                     | 1   | 3   | 1086                                       | 401              | 40  | 1              | 41                       | 10816   | 0               | 3   | 0    | 1487       |
|                 | Pubna, ...        | 46   | 39  | 3  | 42               | 3013  | 1              | 3                        | 210   | 1506  | 39   | 4                | 43  | 3859           | 3                        | 0   | 1368  | 2  | 39               | 3   | 42             | 2398                     | 1   | 3   | 185  | 1531             | 39  | 4              | 43                       | 3345  | 3               | 0   | 1368 | 2          |
|                 | Bograh ...        | 27   | 24  | 0  | 24               | 1265  | 0              | 3                        | 0   | 4117  | 24   | 1                | 25  | 1939           | 2                        | 0   | 3123  | 39   | 24               | 0   | 24             | 976                      | 1   | 2   | 300  | 3729             | 24  | 1              | 25                       | 1588  | 2               | 0   | 3123 | 39         |
|                 | Rungpore, ...     | 54   | 8   | 24   | 32               | 2644  | 0              | 22                       | 0   | 3419  | 8  | 28               | 36  | 2089           | 4                        | 14  | 373   | 3569                                       | 8                | 24  | 32             | 2414                     | 0   | 22  | 0  | 3428             | 8   | 28             | 36                       | 1875  | 11              | 7   | 980  | 2483       |
|                 | Dinagepore, ...   | 19   | 0   | 4  | 4                | 1172  | 0              | 15                       | 0   | 7757  | 0  | 4                | 4   | 1172           | 3                        | 12  | 1004  | 6753                                       | 0                | 4   | 4              | 1125                     | 0   | 15  | 0  | 7757             | 0   | 4              | 4                        | 1125  | 3               | 12  | 1004 | 6753       |
| 2ND DIVISION    | Bancoorah, ...    | 4  | 4   | 0  | 4                | 7585  | 0              | 0                        | 0   | 0   | 4  | 0                | 4   | 7585           | 0                        | 0   | 0   | 0  | 4                | 0   | 4              | 4631                     | 0   | 0   | 0  | 0                | 4   | 0              | 4                        | 4631  | 0               | 0   | 0    | 0          |
|                 | Burdwan, ...      | 71   | 0   | 0  | 0                | 0   | 0              | 0                        | 0   | 0   | 0  | 23               | 23  | 2100           | 0                        | 40  | 237   | 17315                                      | 0                | 45  | 45             | 1695                     | 1   | 25  | 174  | 6570             | 0   | 59             | 59                       | 5098  | 0               | 0   | 0    | 3261       |
| 3RD DIVISION    | Mymensing, ...    | 26   | 0   | 14   | 14               | 2215  | 0              | 12                       | 0   | 9822  | 14   | 10               | 24  | 10764          | 2                        | 0   | 1273  | Not stated                                 | 0                | 16  | 16             | 3425                     | 1   | 8   | 500  | 8112             | 14  | 10             | 24                       | 10764   | 2               | 0   | 1273 | Not stated |
|                 | Dacca, ...        | 154  | 0   | 5  | 5                | 26  | 1              | 148                      | 11  | 0   | 0  | 5                | 5   | 26             | 3                        | 146   | 11  | 0  | 0                | 5   | 5              | 26                       | 1   | 148   | 0  | 0                | 0   | 5              | 5                        | 26  | 3               | 146 | 64   | 0          |
| 4TH DIVISION    | Moorshedabad, ... | 64   | 64  | 0  | 64               | 12684   | 0              | 0                        | 0   | 0   | 64   | 0                | 64  | 12684          | 0                        | 0   | 0   | 0  | 64               | 0   | 64             | 10861                    | 0   | 0   | 0  | 0                | 64  | 0              | 64                       | 10861   | 0               | 0   | 0    | 0          |
|                 | Jessore, ...      | 115  | 26  | 4  | 30               | 1410  | 0              | 66                       | 0   | 32369   | 26   | 6                | 32  | 1874           | 7                        | 57  | 3952  | 27953                                      | 43               | 6   | 49             | 1882                     | 1   | 65  | 24   | 32345            | 43  | 8              | 51                       | 2509  | 8               | 56  | 798  | 30944      |
|                 | Furreedpore ...   | 37   | 0   | 6  | 6                | 12  | 0              | 31                       | 0   | 1231  | 0  | 6                | 6   | 12             | 0                        | 31  | 0   | 1231                                       | 0                | 6   | 6              | 13                       | 0   | 31  | 0  | 1231             | 0   | 6              | 6                        | 13  | 0               | 31  | 0    | 1231       |
|                 |                   |  |   |  |                  |   |                |                          |   |   |  |                  |   |                |                          |   |   |  |                  |   |                |                          |   |   |  |                  |   |                |                          |   |                 |     |      |            |

Columns 9, 15 and 27. The number of entries to be made could not be definitively ascertained pending the completion of the Towjee Nikas.





FROM

THE DEPUTY SURVEYOR GENERAL,

To

THE SECRETARY TO THE GOVERNMENT OF BENGAL,

FORT WILLIAM,

Calcutta, 20th December 1860.

SIR,

I HAVE the honor of submitting, for the information of His Honor the Lieutenant Governor, a brief review of the results of the Revenue Survey Operations, in the Lower Provinces, for the Season 1859-60, just terminated, of which the details and expenditure will be found in the Tabular Statements, as per margin, which also exhibit the cost, rate, and distribution of the several items of the monthly expense of each survey establishment, under the jurisdiction of the Government of Bengal.

2. The following Statement gives, at one view, all that has been accomplished by each of the six establishments, and the usual results, compared with those of the preceding season.

| DIVISIONS. | Superintending Officers.                      | Number of Traverse circuits. | Area surveyed in sq. miles. | Cost.  |     |    | Average rate per square mile. |    |    | Average rate per village circuit. |    |    |
|------------|---|------------------------------|-----------------------------|--------|-----|----|-------------------------------|----|----|-----------------------------------|----|----|
|            |   |                              |                             | Rs.    | As. | P. | Rs.                           | A. | P. | Rs.                               | A. | P. |
| 1st, ...   | Mr. J. J. Pemberton }<br>(the late,) ... .. } | 1048 & 33 blocks,            | 1536.59                     | 32025  | 5   | 0  | 20                            | 13 | 5  | 29                                | 10 | 0  |
| 2nd, ...   | Captain J. L. Sherwill, ...                   | 1014                         | 873.44                      | 37010  | 2   | 10 | 42                            | 5  | 11 | 36                                | 7  | 11 |
| 3rd, ...   | Mr. N. T. Davey, ... ..                       | 1914                         | 1062.24                     | 31790  | 11  | 7  | 29                            | 14 | 10 | 16                                | 9  | 8  |
| 4th, ...   | Captain J. E. Gastrell, ...                   | 1785                         | 1477.45                     | 35867  | 1   | 1  | 24                            | 4  | 3  | 20                                | 1  | 5  |
| 5th, ...   | Mr. J. H. O'Donel, ... ..                     | 96                           | 2370.19                     | 34340  | 13  | 2  | 14                            | 7  | 10 | .....                             |    |    |
| 6th, ...   | Captain G. H. Thompson,                       | 1363                         | 943.14                      | 37677  | 1   | 11 | 39                            | 15 | 2  | 27                                | 10 | 3  |
| 1859-60    | General Results, ...                          | 7203 & 33 blocks,            | 8263.05                     | 208711 | 3   | 7  | 25                            | 4  | 0  | 23                                | 12 | 4  |
| 1858-59    | Ditto, ...                                    | 5824 & 37 ,,                 | 6132.44                     | 188852 | 10  | 9  | 30                            | 12 | 8  | 32                                | 6  | 9  |
|            | Differences, ...                              | +1379 —4 ,,                  | +2130.61                    | +19838 | 8   | 10 | —5                            | 8  | 8  | —3                                | 10 | 5  |

3 These differences are much in favor of the season under review; an excess of 2,130 square miles has been achieved in area, at a slightly additional outlay, the effect

of which has been to reduce the mileage rate by Rs. 5-8 annas, bringing the general average down to 25-4-0. Every Executive Officer has produced an excellent season's work, and the rates are very moderate, with the exception of those of the 2nd Division, which, for ordinary Regulation Districts, are high. The general results evince the usual energy and determination of the several Members of the Department, and are highly creditable to all concerned. The accomplishment of 1,785 village circuits, with an area of 1,477 square miles, in such Districts as Dacca and Backergunge, at a cost of only 24-4 per square mile by Captain Gastrell, and in his usual style, is remarkable, and calls for special acknowledgments.

4. The only Districts completed during the past season, are Dacca and Kooch Behar. That of Dinagepoor will, it is hoped, be finished during the current season, by the united exertions of the 1st and 2nd Divisions. Backergunge was commenced upon, and 888-02 square miles effected by Captain Gastrell during the past season, but will occupy at least two seasons more, and the 3rd Division party has now proceeded to break ground in Sylhet, which, together with Cachar and Jynteah, will take several years. It is possible that Tipperah and Bullooh may be occupied by a detached party of the 1st Division which is intended for those Districts, before the end of the current season; but this cannot be reckoned upon, until the completion of Dinagepoor is placed beyond doubt.

5. The above distribution of Districts completes the programme for the Bengal Regulation Provinces; and it will be a matter for consideration on what work the 2nd Division establishment may be employed in 1861-62, after Dinagepoor is out of hand. That party is composed essentially of Bengallees, or low-country men, and is the same that worked up from Midnapoor, Hooghly, &c. It is therefore advisable to keep them in Lower Bengal if possible.

6. On the other hand, the 4th Division party, under Captain Gastrell, is composed chiefly of up-country men who have been brought down from Behar. They have had a most arduous service in the swamps and Soonderbuns of all the Eastern Districts for many years, and it is only their due to transfer them to the Upper Provinces, directly their present District is completed. I consider this party, under its present excellent and talented leader, the most efficient, the most successful and distinguished of all the surveys.

7. The total savings to Government, after payment of all the fixed and regular professional charges, is Rs. 16,481-8-1, as shewn in Table E. annexed, from which certain non-professional and other extraordinary charges, as detailed in the above Table, have been deducted. These amount to Rs. 7,690-13-0, including the salary of Major W. S. Sherwill, on deputation as Boundary Commissioner, Rs. 6,312, for one year. Captain W. S. Row's half staff on his return from England, on the 9th April to the 14th May following,—the day on which he joined the Hazareebaugh Survey,—must likewise be met from these general savings, as that sum Rs. 148-1-1 cannot fairly be charged to any particular Division; and finally, Rs. 153-1-11, the trifling excess over annual maximum grant of the 6th Division, has also been deducted for reasons that will be found in my review of Captain Thompson's operations. After all these deductions, there will still remain Rs. 8,941-10-2, to the credit of Government, after the most careful check and control over the expenditure of the Department.

8. The sum of 4,500 Rupees has been paid into the General Treasury during the past year, on account of sums realized by the sale of lithographed maps, the accounts of which are rendered in my General Report to the Government of India.

9. In consequence of the pressing demand for this Report, before it has been possible for me to consider and examine such a mass of documents and survey results in a manner their importance requires, I am unable to do greater justice to the subject, but, I trust the account I have thus given of the proceedings of the several Bengal Surveyors, may meet the notice of the Government.

1ST OR NORTHERN DIVISION.

10. This establishment, of the strength noted on the margin, commenced field operations on the 8th December last, the unhealthiness of the climate not permitting the party to break ground earlier.

| NAMES.  | DATE OF APPOINTMENT. |
|---|----------------------|
| J. J. Pemberton, Esq. Revenue Surveyor, Died on 21st April 1860, ... .. | } 1st January 1835.  |
| <i>Assistants.</i>  |                      |
| Mr. R. A. Smith, in charge from 19th March 1860, ...                    | } 1st February 1841. |
| Mr. J. R. Pringle, ... ..   |                      |
| <i>Sub-Assistants.</i>  | 1st March 1838.      |
| Mr. D. W. Burnett, ... ..   | 1st November 1852.   |
| Mr. J. Daviot, ... ..   | 1st February 1854.   |
| Mr. C. P. Brownfield, ... ..  | 20th September 1856. |
| Mr. L. Deveria, ... ..  | 15th November 1859.  |
| and 32 Native Surveyors.  |                      |

11. Mr. Pemberton divided the establishment into two portions; the one under the immediate control of his senior Assistant, Mr. R. A. Smith, with one junior Sub-assistant, Mr. Deveria, proceeded to the remaining portion of Kooch Behar, east of the Toorsa and Durlah rivers, whilst the other, or the rest of the party, under Mr. J. R. Pringle, accompanied by the Revenue

Surveyor himself, proceeded to the northern portion of Dinagepoor, lying between Purneah and Rungpoor, with a view of expediting the survey of the Dinagepoor District, which has remained for so many years in abeyance, and which the 2nd Division single-handed, could not be expected to complete for several seasons. On the completion of the topographical survey of Kooch Behar, the first party was likewise moved into Dinagepoor.

12. In the midst of his labors, the Revenue Surveyor, Mr. Pemberton, was compelled to retire on the 19th March last to Darjeeling, on medical certificate, in consequence of a dangerous attack of illness; and I deeply regret to state he expired on the 21st of the following month at that place,—the establishment from the first mentioned date having been placed under the temporary charge of his senior Assistant, Mr. R. A. Smith, there being no other qualified Officer, who could, at the moment, be removed, without detriment to the work in progress.

13. The departmental changes consequent on the above melancholy occurrence, were brought to the notice of his Honor the Lieutenant-Governor, in my letter, No. 32, dated 15th May last, to the Government of Bengal, and, I here desire to record my sincere regret for the loss of an Officer, who had served in the Department for the past 25 years, for the last 12 of which he was in independent charge of the 1st Division, where his conduct evinced ability and untiring zeal and energy in the public service, and where by his upright and amiable character, he had secured the respect and esteem of all his subordinates and of the whole Department.

14. On the 21st May, the field operations were brought to a close, by the return of the party to Berhampore for recess duties. Thus the field season embraced a period of nearly six months, within which time an area of 939.11 square miles of Mouzahwar Sub-division in District Dinagepoor, and 597.48 square miles of topographical delineation in Kooch Behar was accomplished, the former comprised in 3 main circuits containing 1,048 villages, averaging 573½ acres each; and the latter in one grand circuit sub-divided into 33 blocks, averaging 11,587½ acres nearly, thus making a total of 983,420.23 acres or 1,536.59 square miles, as the out-turn of the season. The cost of the two descriptions of survey has been kept distinct, as far as practicable, and Rs. 28,109-13-0 assigned to the one, and Rs. 3,624-8-0 to the other, or Rs. 32,025-5-0, inclusive of Rs. 291-0-0 expended on mehalwaree calculations. The rates which the respective sums yield, are Rs. 29-14-10 per square mile, and Rs. 26-13-1 for the Mouzahwar work, and Rs. 6-1-1 per square mile for the topographical survey; comparing the entire out-turn and cost of the present with those of the preceding season, the following result is obtained:—

| SEASONS.        | Number of village circuits. | Area surveyed in square miles. | Cost.  |    |    | Average rate per square mile. |    |    | Average rate per village circuit. |    |    |
|-----------------|-----------------------------|--------------------------------|--------|----|----|-------------------------------|----|----|-----------------------------------|----|----|
|                 |                             |                                | Rs.    | A  | P. | Rs.                           | A  | P. | Rs.                               | A  | P. |
| 1858-59, ... .. | 388                         | 1630.26                        | 31,607 | 7  | 2  | 19                            | 6  | 2  | 81                                | 7  | 4  |
| 1859-60, ... .. | 1048                        | 1536.59                        | 32,025 | 5  | 0  | 20                            | 13 | 5  | 29                                | 10 | 0  |
| Difference,...  | + 660                       | - 93.67                        | + 417  | 13 | 10 | + 1                           | 7  | 3  | - 51                              | 13 | 4  |

15. It will be observed that a decrease of 93 square miles in area, in the current season, has slightly affected the rate per square mile by 1-7-3, whilst the larger number of village circuits, professionally divided, has diminished their rates by Rs. 51-13-4. This is owing to the very few villages met with in the prior season; on the whole, the results are not unfavorable, and the mileage rate continues to be the cheapest in Bengal Proper, as will be observed by reference to Table A. annexed.

16. The Contingent Charges incurred during the season are shewn in the margin, and amount to Rs. 1,723-2-0, which, added to other professional and non-professional charges makes a total of Rs. 33,748-7-0, still leaving a saving of Rs. 3,775-9-0, to the credit of Government from the maximum annual grant. On this last aggregate of expenditure, the rates per square mile and per circuit will be Rs. 21-15-4, and Rs. 31-3-6, respectively.

17. The maps and other records, received from this Division, are enumerated in the margin. They have been brought up under Mr. R. Smith's superintendence, in sufficient time to enable the establishment to take the field for the present season's operations, and will require time for examination and review.

Index Map to Main Circuits, Nos. 4, 5 and 6.  
Main Circuit Map No. 4, ditto Nos. 5 and 6.  
Atlas volumes of village plans of Main Circuit Nos. 1, 2 and 3.  
Volume of Traverses, Main Circuits Nos. 4, 5 & 6.

18. The comparisons with the thakbusts are reported to have been very satisfactory, a few discrepancies only having been discovered and duly rectified:

19. The Assistant in charge records the good services of all the Assistants associated with him, in carrying out and perfecting the work, as laid out by the late Mr. Pemberton.

20. The Assistant and Sub-assistants noted in the margin, appear to me to be deserving of promotion, to the extent specified. Mr. Pringle is an old Assistant, of 22 years standing, and continues to afford much satisfaction. The Sub-assistants also have worked well, and the decease of Mr. Pemberton leaves room for the advancement of the others. These promotions will take effect from the 1st January, and to which the sanction of Government will be solicited in a separate letter. The native subordinates also deserve commendation for their attention to their duties, and several have been raised to higher salaries within the maximum grant allowed.

|              |      |     |    |     |
|--------------|------|-----|----|-----|
| Mr. Pringle  | from | 275 | to | 300 |
| " Burnett    | "    | 125 | "  | 175 |
| " Daviot     | "    | 125 | "  | 175 |
| " Brownfield | "    | 125 | "  | 150 |

21. The Board of Revenue were informed, in my No. 89, dated 25th September last, of the area remaining for survey in the Dinagepoor District, viz 1,600 square miles approximately, of which about 660 square miles have been apportioned to the 1st Division. This, it is hoped, will be accomplished before the end of the season, and perhaps enable a detachment of the establishment to move down to Tipperah, but not before the certainty of the remaining area 950 square miles,—devolving upon the second Division for survey, for the completion of the District, shall have been fully ascertained and established.

22. By the two parties co-operating together, the whole of the remaining area, which lies in the centre of the District, round the Sudder Station, may be accomplished at an early date. It is of the first importance to make quite certain of getting this District out of hand this season, and my special attention is directed to this object. Until this is made certain, I do not propose to allow this party to move away from the District.

23. In consequence of the lamented demise of Mr. Pemberton, certain departmental arrangements became necessary. Mr. R. B. Smart, the senior Assistant on the 4th Division, was recommended to Government as the highest qualified subordinate, whose experience of 14 years in the Department had fully qualified him, both as a Draughtsman and good practical Surveyor, and who, by his education and social position, was well fitted for an independent charge. To this recommendation Government were pleased to accord their sanction, in letter, No. 1287, dated 31st May last, and Mr. Smart accordingly assumed charge from Mr. Smith, on the 6th October last, and I have much confidence in the administrative capacity of Mr. Smart, to enable him to regulate a large establishment, and direct the necessary survey operations.

24. Shortly after Mr. Smart received charge of the establishment, and just as it was on the point of taking the field, I was greatly surprised at receiving from Mr. R. Smith, the tender of the resignation of his situation, giving only 15 days notice to the Officer under whose charge he was serving, and a still less time to this Office. As all Assistants of this Department are precluded by the rules laid down for its guidance, and also by virtue of the agreements voluntarily entered into by themselves,

from demanding their discharge during the field season, and as Mr. Smith's notice was totally inadequate to enable me to make other arrangements at such a critical moment, I was obliged to decline receiving his resignation, which was put forward in a very offensive and peremptory manner, and accompanied by highly objectionable letters. In spite of orders to the contrary, Mr. R. Smith deserted from the establishment on the 16th of November, and has thus put the Government service to the greatest possible amount of inconvenience. Mr. Smith has, in my opinion, debarred himself from all further Government employment, and as an old servant of nearly 20 years standing, he ought to have known better; conduct like this has a very serious effect on a large Department, and more especially one constituted like this, in which particular training and qualifications of a high order are essential.

#### 2ND OR SOUTHERN DIVISION.

25. This establishment, consisting of the members whose names appear in the

| NAMES.   | DATE OF APPOINTMENT. |
|--|----------------------|
| Major W. S. Sherwill. Revenue Surveyor on Deputation ... ..                | 25th July 1838.      |
| Captain J. L. Sherwill, 39th Regiment N. I., Offg. Revenue Surveyor ... .. |                      |
| Assistant.   | 26th September 1856. |
| Mr. W. Ivey ... ..   |                      |
| Sub-Assistants.  | 1st December 1849.   |
| Mr. J. Vaughan, resigned, 15th September 1860 ... ..                       | 30th December 1854.  |
| Mr. A. Hyde ... ..   |                      |
| Mr. W. Sinclair ... ..   | 19th February 1856.  |
| Mr. G. Hyde, resigned, 1st May 1860. ... ..                                | 6th October 1855.    |
| Mr. G. E. Nash, ... ..   | 1st January 1857.    |
| and  |                      |
| 40 Native Surveyors.   | Ditto 1860.          |

margin, quitted Darjeeling, where it recessed, on the 15th November 1859 for the field, and commenced operations early in the following month, closing them on the 15th May last.

26. Within the above period of  $5\frac{1}{2}$  months, an area of 5,58,999.04 acres, or 873.44 square miles has been accomplished; the tract of country surveyed, with the exception of two small pergunnahs lying to the North-west, being situated in the South-eastern corner of the District of Di-

nagepoor, bounded by the Kurotyah river on the east, which divides it from the Districts of Bograh and Rungpoor, and on the west by the work performed in 1858-59.

27. The pergunnahs surveyed are named in the margin. They comprise no less

Madorabuttee.  
Debikote.  
Poladassie.  
Kangore.  
Babunpore.  
Ghoraghhat.  
Khasatlook.  
Sarhurta.  
Sooltanpoor.  
Gillahbairee and portions of Sagoonah and Susbeer.

than 2,454 mouzas, or villages contained in 1,014 separate circuits, professionally laid down, of which the average size is 551.28 acres, and have been effected at a cost of Rs. 36,332-5-7 for professional charges only. This yields the average rate per square mile of Rs. 41-9-5, and per circuit of Rs. 35-13-3, or Rs. 42-5-11 for the one, and Rs. 36-7-11, for the other, if the expense of Rs. 677-13-3, for the calculation of internal mehals, be added to the total given above. A comparison with the results obtained in

1858-59 gives the following:—

| SEASONS.     | Number of villages. | Number of village circuits. | Average size of village circuits. | Area surveyed in square miles. | Cost. |       | Average rate per square mile. |       | Average rate per village circuit. |       |
|--------------|---------------------|-----------------------------|-----------------------------------|--------------------------------|-------|-------|-------------------------------|-------|-----------------------------------|-------|
|              |                     |                             |                                   |                                | Rs.   | A. P. | Rs.                           | A. P. | Rs.                               | A. P. |
| 1858-59, ... | 2004                | 1591                        | 266.36                            | 662.18                         | 34828 | 1 3   | 52                            | 9 7   | 21                                | 14 3  |
| 1859-60, ... | 2454                | 1014                        | 551.28                            | 873.44                         | 37010 | 2 10  | 42                            | 5 11  | 36                                | 7 11  |
| Difference   | +450                | -577                        | +284.92                           | +211.26                        | +2182 | 1 7   | -10                           | 3 8   | +14                               | 9 8   |

28. These results are so far satisfactory, that they shew a tendency to diminished rates, and increased area on the previous year's proceedings, although the cost of village circuits is higher from their large average size. Though the area completed is small, it was only with very great difficulty so much could be effected, in the particular ground in question, by this party, which has been so long exposed to periodical fever in the very unhealthy parts of this District.

29. Moreover the very small size of the villages is almost an insuperable obstacle

|                      |  | Average<br>size of<br>villages. |
|----------------------|--|---------------------------------|
| Season 1857-58 ..... |  | 315                             |
| „ 1858-59 .....      |  | 211                             |
| „ 1859-60 .....      |  | 227                             |
| Average ...          |  | 230                             |

to rapid progress, the general average being only a little more than  $\frac{1}{3}$  of a square mile as shewn in the margin. The jungly and swampy nature of the tract under survey has been a great bar to rapid progress, and I am most anxious to see the remainder of the District completed. Captain J. L. Sherwill, has worked most zealously and successfully, and is a very deserving Officer.

30. The Contingent charges for the season have amounted to Rs. 1,722-6-2 for

|                                      | Rs.          | A.       | P.       |
|--------------------------------------|--------------|----------|----------|
| Travelling allowance, ... ..         | 293          | 10       | 4        |
| Conveyance of Government stores, ... | 136          | 11       | 0        |
| Feed, &c. of Elephants, ... ..       | 1,292        | 0        | 10       |
| Total,                               | <u>1,722</u> | <u>6</u> | <u>2</u> |

items noted in the margin. This, added to the sum mentioned in a preceding para. swells out the cost of the season to Rs. 38,732-9-0 or Rs. 1,208-9-0 in excess of the authorised maximum annual grant. The rates per square mile and

per circuit on this grand total will be respectively Rs. 44-5-6, and Rs. 38-3-1.

31. The internal mehal chucks have amounted to Rs. 7,681, for which the sum of Rs. 677-13-3 has been expended, as before stated, for calculation being at the rate of Rs. 8-13-1 per hundred chucks, or parcels. This expense belongs to the Civil branch, but has to be defrayed out of the professional grants.

32. Two stations of the Calcutta Meridional Series of the Great Trigonometrical Survey, named Narainpoor and Chandol, have been met with, and taken up during the progress of the survey; and it is very satisfactory to note, that the Reveue Surveyor has succeeded in identifying and incorporating with his own survey, several stations of the old Bograh and Rungpoor Survey, under the late Mr. Pemberton, so that the connection of the new work with these Districts will, it is hoped, be perfect and complete. Captain Sherwill reports that there exist no differences of any moment in the boundaries common to the two Surveys, conducted at periods or intervals of several years, the demarcations being almost in every case identical.

33. Captain Sherwell reports most favorably of the health of that portion of his establishment, both European and Native, which accompanied him to Darjeeling for the recess, and who are now, from the beneficial effects of the climate, in an efficient state for the present season's field operations. Whilst the other portion, left at Dinagepoor from a wish to curtail expenditure in the saving of hill batta, and with a view to meet the prejudices of some of the establishment who feared the hill climate, or objected to the expense of living there, has suffered much from climatic influence, and is not in nearly so good a condition to undertake the arduous duties of the field season.

34. All arrears in the completion of Registers of 1858-59 are reported to have been completed, and duplicates lodged with the Civil Superintendent; immediately on the arrival of the Revenue Surveyor at Dinagepoor, the English and the Vernacular Lists, furnished by the Superintendent, will be returned to him, with the professional numbers, to assist him in the work of settlement. The arrangements made for the completion of the District of Dinagepoor, have been already adverted to in 21st para. of this Report, and I rely with confidence on the zeal and energy of the two establishments now employed therein, to accomplish so desirable an object, during the current season, and they will co-operate together to this end.

35. The number and description of maps and other records which have been prepared, or are in course of preparation and transmission, are detailed in the margin; but as they have not yet been sent in, I am unable to review them, this report being demanded within a specified date.

36. It now only remains to notice the services and exertions of the Assistants of this establishment, and one or two other changes in the *personnel* of its constitution. Captain W. S. Row, formerly attached to this establishment, was transferred to the 6th, or Hazareebaugh Division, on his return from medical leave to Europe, by the Orders of Government of Bengal, No. 2149, dated 30th April last. Mr. Vaughan, Assistant Surveyor having received the offer of a Deputy Collectorship from the Board of Revenue, North Western Provinces, tendered his resignation, giving ample notice; and as the Assistant was a most deserving Officer, I had pleasure in acceding to his wishes, although his loss is severely felt in this Department. He, therefore, was allowed to leave on the 15th September, when all his recess work was brought up. Mr. G. Hyde, Sub-assistant 3rd Class, was likewise permitted to resign on the 1st May, on the termination of the field season, as his services were not required, and Mr. G. E. Nash was appointed a junior Sub-assistant from the 1st January last, to fill a vacancy.

37. The Revenue Surveyor praises the zeal and assiduity of his subordinates, and especially brings to notice the services of Messrs Ivey and Vaughan.

38. Mr. W. Ivey has served 3 years in his present grade and 22 years in the Department, and to place him on a footing with his contemporaries in the Department, I propose to raise his salary from 300 to 350 Rupees per mensem from the 1st January next. The establishment has been much reduced in efficiency by the loss of Mr. Vaughan, and the result of the current season's operations will depend, in a great measure, on the active exertions of Mr. Ivey; I am therefore anxious to mark my sense of his long services and general usefulness.

39. Messrs. Sinclair and A. Hyde are well spoken of, as having each performed a good season's work, the whole of which has been mapped and calculated. Mr. Sinclair particularly is a very promising and pains-taking Assistant.

40. Such of the Native Assistants who have been recommended have received slight increases to their salaries.



## 3RD OR EASTERN DIVISION.

41. The operations of this establishment, composed of the Assistants and Sub-

| NAMES.   | DATE OF APPOINTMENT.                                |
|--|---|
| Mr. N. T. Davey Assistant Revenue Surveyor in charge, appointed Revenue Surveyor 1st May 1860, ... | 18th March 1841.                                    |
| Assistant.   |   |
| Mr. G. S. Swiney, ...  | October 1841.                                       |
| <i>Sub-Assistants.</i>   |   |
| Mr. J. K. Moran, ...   | 1st July 1851.                                      |
| Mr. P. Agabeg, ...   | (1st December 1851, re-appointed 18th January 1860. |
| Mr. R. Barclay, ...  | 20th September 1856.                                |
| Mr. G. C. Bolst, ...   | 15th October 1850.                                  |
| and<br>35 Native Surveyors.  |   |

assistants named in the margin, under the superintendence of the Revenue Surveyor, Mr. N. T. Davey, commenced on the 15th December 1859; the arrangements made for the conduct of the field work, having been somewhat disturbed by the absence of Mr. J. K. Moran, on deputation to the Presidency, to adjust the Mymensing records, and his accidental detention *en route* on his return, as well as of Mr. Beatson, who had overstayed his leave by six weeks, and did not rejoin his appointment until the 13th of the month. The season however was protracted to the 1st July last, and was in consequence a full one of 6½ months.

42. The work lay in the most unfavorable and intricate portion of the District, and the prosecution was rendered still more difficult and harassing by the smallness of the villages, (the average size being less than half a square mile) and the absence of properly marked boundaries in the field. The extent of area, which came under measurement, and which was the remainder of the District of Dacca allotted to this Division, is bounded on the north by Zillah Mymensingh, on the east by the Megna river, which separates Dacca from Tipperah, on the west by the work of the preceding season, and on the south by the Ganges river, beyond which the District itself extends, but which has been surveyed by the 4th Division.

43. The above tract of country has yielded an area of 6,79,829·11 acres, or 1,062·24 square miles, included in 9 main circuits, sub-divided into 1,908 separately demarcated hulkas, or traverse circuits, containing as many mouzas, or villages, besides 6 river circuits, the average of the first being 306 acres only. The boundaries of villages were picked up by the Surveyors, as demarcated in the field, and compared, after being professionally mapped, with the thakbust maps by the Assistants themselves; and where, to the detriment of the progress of the work, these landmarks were wanting, the Surveyors were entirely dependent on the village authorities, for the correct delineation of their lands. These defective demarcations, or rather the absence of them, were represented by the Revenue Surveyor, and a strong remonstrance addressed to Mr. Morris, on the latter assuming charge of the Office of Civil Superintendent, when a reinforcement of one Peshkar and ten Ameens was sent to assist in re-erecting the boundary pillars. Had this timely assistance not been rendered, it is much to be feared that the District of Dacca would not have been completed during the past season.

44. I quite concur, in opinion with this Revenue Surveyor, that his party has not yet had a fair field of sufficient work, to call forth the energies and capabilities of his efficient establishment, and this is solely attributable to incomplete or defective work furnished, or arrangements so wholly inadequate, on the part of the Civil branch, as to render the exertions of the professional establishment unproductive of commensurate results.

45. The expenditure of the year, for professional fixed charges, has been Rupees 30,869-4-10, exclusive of Rupees 750-4-11, deputation allowance to Mr. Moran and his party to Mymensing and Calcutta, on a separate duty, and, of Rupees 115-14-0 for fines imposed and credited to Government. On the above sum the rate per square mile and per circuit, are respectively Rs. 29-0-11 and Rs. 16-2-8.

46. The cost of the computation of the internal mehalwar chucks, or parcels of estates, measured by the Civil branch, has been Rs. 921-6-9, for which 49,880 chucks in 1046 villages have been calculated, at an average of  $3\frac{1}{2}$  pie per chuck. Not a single village khusrah area has been sent to the Surveyor for comparison with the professional area, and I am given to understand, that no regular khusrah measurement has been carried out in the District, but the whole left to simple demarcation by the external measurement of the various plots.

47. This deviation from the original orders of the Board of Revenue by the Civil branch, will, no doubt, involve the Government in heavy expense hereafter, as it is not difficult to foresee that such a definition of intricate estates, in such a District as Dacca, is of very little use indeed, as so often pointed out by myself since the Board's system was introduced in 1850.

48. The professional results obtained during the season under review, are given in the following Tabular Statement, and compared with those of 1858-59 :—

| SEASONS.        | Number of villages. | Area surveyed in square miles. | Cost.  |    |    | Average rate per square mile. |    |    | Average rate per village circuit. |    |    |
|-----------------|---------------------|--------------------------------|--------|----|----|-------------------------------|----|----|-----------------------------------|----|----|
|                 |                     |                                | Rs.    | A. | P. | Rs.                           | A. | P. | Rs.                               | A. | P. |
| 1858-59, ...    | 1455                | 730·30                         | 30,377 | 14 | 11 | 41                            | 9  | 6  | 20                                | 14 | 0  |
| 1859-60, ...    | 1908                | 1062·24                        | 31,790 | 11 | 7  | 29                            | 14 | 10 | 16                                | 9  | 8  |
| Difference, ... | +453                | +331·94                        | +1,412 | 12 | 8  | — 11                          | 10 | 8  | — 4                               | 4  | 4  |

49. The above shews favorable results, in every respect, for the season under review. An area of nearly half as much again has been attained by an excess expenditure of only Rs. 1,412-12-8, and it will be observed, that, whenever an ample field is prepared for the professional party, a good area is obtained, at sufficiently moderate rates, provided the country itself affords facilities for survey operations.

50. The contingent expenses of the season are marginally given, and amount to

|                                     | Rs.  | As. | P. |
|-------------------------------------|------|-----|----|
| Feed and keep of Elephants, .. .. . | 1359 | 10  | 11 |
| Boat Hire, .. .. .                  | 137  | 6   | 3  |
| Cleaving Jungle, .. .. .            | 89   | 0   | 0  |
| Total Rs., ..                       | 1586 | 1   | 2  |

Rs. 1,586-1-2 which, added to the sum shewn above, makes a total of Rs. 33,376-12-9, on which the rates are Rs. 31-6-8 per square mile, and Rs. 17-7-10 per circuit, leaving still a saving to Government of Rs. 4,147-3-3 from the annual maximum grant; the largest saving for the season, of all the

six Divisions under the jurisdiction of the Government of Bengal.

51. The survey of the District of Dacca, in as far as was apportioned to this Division, has now been completed under the superintendence of Mr. Davey during the past three seasons, from 1857 to 1860. The following gives in one view the result of each season, and the totals of each with rates :—

| SEASONS,        | Number of village circuits. | Average size of village circuits. | Area surveyed in square miles. | Cost.  |       | Average rate per square mile. |       | Average rate per village circuit. |       |
|-----------------|-----------------------------|-----------------------------------|--------------------------------|--------|-------|-------------------------------|-------|-----------------------------------|-------|
|                 |                             |                                   |                                | Rs.    | A. P. | Rs.                           | A. P. | Rs.                               | A. P. |
| 1857-58, ...    | 2118                        | 368.48                            | 1219.44                        | 33,658 | 9 9   | 27                            | 9 7   | 15                                | 14 3  |
| 1858-59, ...    | 1455                        | 309.40                            | 730.30                         | 30,377 | 14 11 | 41                            | 9 6   | 20                                | 14 0  |
| 1859-60, ...    | 1908                        | 306.01                            | 1062.24                        | 31,790 | 11 7  | 29                            | 14 10 | 16                                | 9 8   |
| Total and Mean, | 5481                        | 331.05                            | 3011.98                        | 95,827 | 4 3   | 31                            | 13 0  | 17                                | 7 5   |

52. Mr. Davey's exertions have been well directed: he is an able and efficient Officer, and I have had pleasure in recommending him for the full grade of Revenue Surveyor, (vacant by the death of Mr. Pemberton,) and to which he was appointed by G. O. Government Bengal, No. 3,000, dated the 31st May last.

53. The connection of the District with that of Furreedpoor has been perfected by the Revenue Surveyor in conjunction with Captain Gastrell, of the 4th Division, by means of triangulation, embracing both banks and common points on the Megna river, which forms the boundary of Dacca and Tipperah. Every precaution has been taken to render the survey of the great rivers in this neighbourhood as complete as possible. This party has now proceeded to the south-western extremity of the Sylhet District; an area of 1,150 square miles having been demarcated, containing 2,090 villages for survey during the current season.

54. The records prepared by this Division are enumerated in the margin. These have not yet reached this Office, as no Steamer is expected to leave Dacca for the Presidency earlier than the 20th Instant, and it is neither safe nor expedient to expose such valuable documents to the chances and risk of transit by Banghy Post or country boat.

55. The extract from Mr. Davey's Report quoted in the margin, relative to the Office

Para. 16th. "The only arrears of District Dacca that will remain in my Office on the transmission of the season's maps, are the village Statements or Registers. On these are entered, for each village, from the Civil Superintendent's Lists,\* the fiscal name, statistics, thannah and Moonsiffce names; and from professional data, the area in acres and beegahs, and the area of water. These

work arrears connected with the Dacca District, is given to shew the

\* Moonsiffce.

Registers could not be completed during the first two\* seasons, owing to the Civil Superintendent having failed to furnish me with a list of villages corrected, to correspond with the Collector's rent roll papers. It may be necessary to call attention to the fact, that it has been distinctly avowed by the Civil Superintendent, that, till the completion of the District, and the preparation of his own mouzawar Registers, it is hopeless to expect a complete or correct record of villages, and the pergunnahs to which they belong. I have however completed 8 (in duplicate) out of 12 Registers of the District, with the information as it has been furnished to me by the Superintendent, and the remaining 4 will be finished, during the ensuing field season, as the transcribing of them fair is all that remains to be done. I however foresee that these Registers of mine, will require considerable additions and amendments; for only one village name, supplied by the Superintendent, heads the Register, and there are hulkahs containing a dozen or more villages. The pergunnah name is still a perplexing question which I fancy cannot be decided, till the Civil Office mouzawar and mehal Registers are finally completed."

difficulties attending the proper adjustment of the records in these Eastern Districts.

56. The Revenue Surveyor draws attention to the fact that the nchalwaree areas have been computed, this season, in acres, instead of beegahs, at the special request of the Civil Superintendent. The consequence is, that about half the mehal areas of the District are, each, in distinct denominations. The conversion of acres into beegahs, and *vice versa*, is however, a matter easily dealt with by the Civil branch.

57. Mr. Davey reports on the services of each of his Assistants, and commends them for their unabated zeal and exertions. Mr. J. K. Moran, the Senior Sub-Assistant, is specially noticed for his energy in overcoming all difficulties, and has been strongly recommended for the grade of Assistant Surveyor on a salary of Rs. 250. Fully concurring in this recommendation, I have authorized the promotion from the 1st January next subject to the usual confirmation.

58. Having been called on to supply, if possible, a Surveyor to accompany the Force about to enter the Tipperah hill District, Mr. Moran was selected for his general intelligence and qualifications, and he is now under orders to join Captain Raban, the Officer in command of the expedition, and survey the route taken by the Force, and, to collect all the geographical information possible of the country, which at present is totally unknown. Full instructions and instrumental equipment have been issued for this purpose, and although the loss of the Assistant Surveyor's services will be severely felt by Mr. Davey, whose area in Sylhet must be diminished in proportion, yet the opportunity is too good to be lost, and, I trust Mr. Moran's professional reputation may be enhanced by the result of his labors.

59. Mr. R. Barclay is also well spoken of, and deserving of encouragement for attention and efficiency both in the field and Office. An advance of Rs. 25 has likewise been made to his small salary.

60. Mr. Paul Agabeg, formerly Sub-assistant on the 2nd Division, and who resigned in December 1856, was re-appointed to the Department, on his application, on his return from England, and was posted to this Division on the 18th January last. His portion of the work for the past season is described as the worst for survey. Mr. Agabeg is a very pains-taking and efficient Sub-assistant.

61. Mr. S. M. Smylie, a very promising candidate from the Serampoor College, after passing the usual examination, was appointed to the Department on the 24th July last, and posted to this Division to fill a vacancy.

## 4TH OR WESTERN DIVISION.

62. On the 15th of December 1859, Captain Gastrell, with the establishment

| NAMES.   | DATE OF APPOINTMENT. |
|--|----------------------|
| Captain J. E. Gastrell, 13th Regiment N. I., Revenue Surveyor, ...     | 13th January 1852.   |
| <i>Assistants.</i>   |                      |
| Mr. R. Smart, transferred to 1st Division on 6th October 1860, ...     | 21st September 1846. |
| Mr. C. Bradley, died on the 27th September 1860, ...                   |                      |
| Mr. A. Smart, ...  | 3rd December 1847.   |
| <i>Sub-Assistants.</i>   |                      |
| Baboo Lallahram, ...   | 1st September 1835.  |
| Mr. C. David, Office Assistant and Draftsman, and 28 Native Surveyors. | 1st September 1847.  |

detailed in the margin, took the field and commenced his survey operations in that portion of the District of Furreedpoor which lies to the east of the tract surveyed in the preceding season of 1858-59, and west of the Megna river, and immediately to the south of the Ganges river; the object in view being to finish off the small remaining portion of the District, to ensure the completion of the conterminous District of Dacca,—of which a considerable tract lies to the south of the Ganges river and was therefore transferred to this party for execution—and finally, to open the survey of

the District of Backergunge, also adjoining Furreedpoor and Dacca, and to which the operations of this Division extended, according to the revised programme.

63. All these Districts, and the great rivers encircling them, have been connected by a series of minor triangulation, carefully carried out by the Revenue Surveyors of the two Divisions acting in concert, and fixing permanent marks and stations on either side of the Megna river, so that the whole may blend well together, and also form a good base whereon the Tipperah District survey may be started by the 1st Division party, whenever they may be able to come down from Dinagepoor.

64. On the 20th May last the active field duties were closed, and the last parties withdrawn.

|                  | Square miles. |
|------------------|---------------|
| Dacca, ...       | 388.55        |
| Furreedpoor, ... | 200.88        |
| Backergunge, ... | 888.02        |
| Total, ...       | 1,477.45      |

The season in the field thus embraced a period of 5 months, and in that time the party, as usual, accomplished a splendid out-turn, embracing an area of 9,45,568.62 acres or 1,477.45 square miles. This area lies in portions of the three Districts marginally noted, and has been enclosed in 21 main circuits including 7 river circuits, sub-divided into 1,785 hulkas or separately demarcated circuits, containing as many mouzas averaging 529.73 acres.

65. The expenditure of the season, inclusive of contingencies, has been Rupees 37,860-13-9, which sum has been distributed by Captain Gastrell in the following proportions, for the portions of the three Districts surveyed. For Dacca, Rupees 9,956-11-0, for Furreedpoor 5,147-5-0, and for Backergunge 22,756-13-9; but, the rates per square mile and per village circuit are respectively Rupees 23-11-6 and 19-10-2, calculated on the actual cost; Rupees 35,055-11-9 of the professional survey,—and Rupees 24-4-3 and 20-1-5, taking the expense of calculating the internal mehal chucks,—which amounts to Rupees 811-5-4, there being no less than 61,050, of which the areas have been ascertained

at an average of 2½ pie per chuk, leaving a saving to Government of Rupees 1,656 14-11, after paying professional and civil charges.

66. The several items noted in the margin have cost Rupees 2,805-2-0 for contingencies, which, added to the two sums for professional and mehalwaree charges, brings up the gross total to Rupees 38,672-3-1, or Rupees 1,148-3-1 beyond the annual maximum; the rates being on this enhanced sum, Rupees

|   | Rs.  | A. | P. |
|---|------|----|----|
| Feed and keep of Elephants, ... ..      | 1008 | 13 | 10 |
| Boat hire, ... ..                       | 793  | 0  | 7  |
| Travelling allowance, ... ..            | 858  | 9  | 7  |
| Carriage of Government property, ... .. | 144  | 10 | 0  |
| Total, ...                              | 2805 | 2  | 0  |

26-2-9 per square mile, and Rupees 21-10-7 per village circuit.

67. In the prosecution of the work over this intricate country, many and serious difficulties were experienced and overcome, with the characteristic energy of the Revenue Surveyor and his subordinates; and whether we look at the large area accomplished, or the style of the work, and the time in which the whole has been mapped, calculated and rendered, the admirable management and success of Captain Gastrell is the more apparent, and the greatest credit is due to him and to his establishment.

68. The extract marginally cited from Captain Gastrell's Report will afford some

PARA.—8. "In carrying out the series of triangulations, many difficulties had to be encountered and overcome, owing to the vapours constantly rising from the water, and the lowness of the banks obliging us to take our angles from stations often on a level with the water; it was by no means easy to get a steady and distinct view of marks across the river. In the mornings the fog was often too dense; and when it lifted, but a short time was left ere the sun's rays, operating on the damp atmosphere, made the marks wave and dance, beyond all hopes of obtaining true readings. The nature of the banks, frequently composed of a thin stratum of clay over quick sand, made it difficult indeed to obtain a firm footing, either for ourselves, or the theodolites; cutting lines through the heavy null, reed, and gigantic flag jungles, was also a serious obstacle to quick progress. Not a man could be obtained to help us in the task; we had therefore to do it entirely by the aid of our survey parties, and to keep them to their task, to go ourselves at their head, and break through the jungle with them. The heat and exhaustion were great. But the men acted admirably, and reassured by us and our guns, had no longer any fear of wild animals, with which these jungles abounded. Latterly, when I reached the low jungly churs, lower down the river, I had the mortification of finding, and seeing, sometimes as I looked through the telescope, my marks charged and knocked down by a wild buffalo, who thus showed their objections to any one invading their solitudes."

idea of the difficulties he had to encounter.

69. The following favorable results are obtained by comparison with the work and rates of 1858-59, shewing a decreased rate and a larger area for the season under review:

| SEASONS.     | Number of traverse circuits. | Average size of traverse circuits. | Area surveyed in square miles. | Cost.  |    |    | Average rate per square mile. |    |    | Average rate per village circuit. |    |    |
|--------------|------------------------------|------------------------------------|--------------------------------|--------|----|----|-------------------------------|----|----|-----------------------------------|----|----|
|              |                              |                                    |                                | Rs.    | A. | P. | Rs.                           | A. | P. | Rs.                               | A. | P. |
| 1858-59, ... | 1973                         | 448.15                             | 1381.57                        | 35,997 | 12 | 7  | 26                            | 0  | 10 | 18                                | 3  | 11 |
| 1859-60, ... | 1785                         | 529.73                             | 1477.45                        | 35,867 | 1  | 1  | 24                            | 4  | 3  | 20                                | 1  | 5  |
| Difference,  | -188                         | +81.58                             | +95.88                         | -130   | 11 | 6  | -1                            | 12 | 7  | + 1                               | 13 | 6  |

70. The maps and other records prepared by Captain Gastrell are detailed in the margin. The main circuit or Pergunnah maps have been duly rendered, and are of the same high order as hitherto produced by this accomplished Officer, leaving nothing to be wished for.

*For Deputy Surveyor General of India.*

|                                     |                              |
|-------------------------------------|------------------------------|
| Index map of season's work on scale | $\frac{1}{4}$ inch = 1 mile. |
| 6 Circuit ditto                     | 1 " = "                      |
| 80 Congregated village sheet maps   | 4 " = "                      |
| 6 Ditto and river ditto             | 2 " = "                      |
| 5 Index maps for volumes...         | $\frac{1}{4}$ " = "          |

*For Collectors.*

Duplicates of the above maps, omitting the "index map to season's work."

*For the Superintendent's Office.*

- 61,050 Mehal chucks calculated and entered. The greater portion in registers, as well as on maps, with totals for each mehal.
- 1 Trace of boundary for future season's work.

Inspection I have had of these maps, they are most successful, the system being likely to cause a wonderful diminution of labor. They are all admirable productions, and most valuable contributions to the geography of this hitherto unknown part of Bengal.

72. The amount of mapping executed is very large, and has formed a very hard recess season, the more especially with the heavy losses sustained amongst the European Assistants; but under Captain Gastrell's energetic superintendence and the willing co-operation of the Assistants who remained, the whole has been got through, and the establishment deserves the highest praise for their successful exertions.

73. Captain Gastrell states that every due and proper precaution has been taken to ascertain and insert the correct thannah names and the statistics of each village; that the demarcations of the Civil Superintendent were good, and very little difficulty experienced in identifying them in the field or following their bends—the villagers readily pointing them out, when necessary. The thakbust maps are reported to have agreed very well, with only slight differences, as a matter of course, in the distances of tributary junctions.

74. The Revenue Surveyor expresses his pleasure and satisfaction with the work and exertions of his Assistants, and has recommended those whose names appear in the margin for promotion to the extent mentioned. In consideration of the good service rendered, I have accordingly advanced them to the grades to which they are, in my opinion, fairly entitled, and to which the confirmation of Government is now solicited.

|                   |          |    |     |  |
|-------------------|----------|----|-----|--|
|                   | Rs.      |    | Rs. |  |
| Mr. A. Smart,     | from 250 | to | 300 |  |
| Mr. C. David.)    |          |    |     |  |
| (Draftsman and    | from 90  | to | 120 |  |
| Office Assistant) |          |    |     |  |

75. This establishment is, I regret to say, now considerably crippled in its European agency by the decease of Mr. C. Bradley, Assistant Surveyor, on the 27th September last, after a service of 22 years in this Department, in which his zeal and uprightness and general usefulness were thoroughly known and appreciated. Mr. Bradley was much respected and liked in the Department, and his loss will be severely felt. Mr. Robert B. Smart, as already mentioned, has been promoted to the charge of the 1st Division survey, vice Mr. Pemberton, deceased, as a reward for his good and excellent services, and high character long maintained in the Department. Baboo Lallahram has also been absent on leave under medical certificate from 26th June last, on account of his eyes failing him, his services being wholly lost to the establishment during the recess months, but he has now returned to duty.

76. In order to obviate, as much as possible, the serious losses thus sustained on this establishment, I recommended to the Government of Bengal the nomination of a qualified Covenanted Officer. After much enquiry, a suitable and highly promising candidate was found in the person of Lieutenant W. J. Stewart, Artillery, who was appointed by Government Order Bengal Government, No. 5079, dated the 29th October last, and joined Captain Gastrell on the same day. By this accession I hope some of the inconvenience will be obviated, for, although Lieutenant Stewart will have to learn his work, yet he is a most accomplished Draftsman, and from his previous training at Addiscombe, is well adapted for our requirements.

77. Mr. H. R. Littlewood, a scholar of La Martinière, and highly recommended by the Principal of that Institution, having been found well qualified in the test laid down, was appointed by Government Order Bengal Government, No. 5949, dated the 6th Nov. last, a Sub-Assistant, 3rd Class, on this establishment, to fill a vacancy. In numerical strength therefore the European agency is the same as before, though its efficiency, and competency to produce equal results with last season, of course is not equal.

78. With respect to the work of the current season, the Revenue Surveyor has received all the thakbust maps of the remainder of the District, Backergunge, which is sufficient to occupy the party for the whole of this and the following season, 1861-62, the total number of demarcated villages being 2,468, comprising an area of 2,500 square miles or more, in which the adjoining Soonderbuns have not been included. This area is of a complicated character, much intersected by great rivers, and other innumerable minor tidal streams, which will necessitate the use of boats throughout the season, the expense of which must be provided for by contingent bills, whilst the elephants, hitherto employed on this establishment, have been transferred to the 6th Division at Hazarcebaugh.

#### 5TH OR ARRACAN DIVISION.

| NAMES.                                    | DATE OF APPOINTMENT. |
|---|----------------------|
| J. H. O'Donel, Esq., Revenue Surveyor ... | 1st December 1836.   |
| Assistant.                                |                      |
| Mr. J. Pickard ...                        | 1st November 1846.   |
| Sub-Assistants.                           |                      |
| Mr. G. V. Thompson ...                    | 19th November 1847.  |
| Mr. R. Savage ...                         | 12th August 1857.    |
| Mr. W. A. Madge ...                       | 1st December 1859.   |
| Mr. T. W. Nicholson ...                   | Ditto.               |
| Mr. J. Bridge ...                         | 15th January 1858.   |
| And 30 Native Surveyors.                  |                      |

79. The field operations of this Division commenced on the 24th December 1859. Mr. O'Donel, the Revenue Surveyor, with the Assistants whose names appear on the margin, quitting their recess Station, Akyab, at the latter end of the preceding month, a halt was made at a village named Ralla, the northernmost as well as most advantageous place preparatory to proceeding into the hills, and to permit of arrangements being completed for purchasing provisions, and securing coolies and canoes.

80. Notwithstanding all the aid rendered by the local authorities, the delay and difficulty proved far greater than had been anticipated, and these preliminaries, together with the necessity of travelling by the only available means, canoes, up the hill streams, fully occupied the party for three weeks. Each Assistant was sent to his proper destination with all practicable despatch, and provided with provisions sufficient for a month for his party, including egyptians and coolies; at the same time the Revenue Surveyor started for Tuluckmee, to be in the midst of his field parties, whose work was closed by the 30th April last, after which date each interior surveyor returned to quarters as his individual work was completed.



81. The actual working season may thus be assumed as one of only four months' duration, and although a short one, must, on the whole, be considered as very satisfactory in all respects, whether the cost, area, or rates, be taken into consideration, as will be observed from the following Comparative Statement:—

| SEASONS.        | Number of hulkas. | Area surveyed in square miles. | Cost.  |    |    | Average rate per square mile. |    |    |
|-----------------|-------------------|--------------------------------|--------|----|----|-------------------------------|----|----|
|                 |                   |                                | Rs.    | A. | P. | Rs.                           | A. | P. |
| 1858-59, ...    | 111               | 1504·33                        | 29,480 | 7  | 10 | 19                            | 9  | 6  |
| 1859-60, ...    | 96                | 2370·19                        | 34,340 | 13 | 2  | 14                            | 7  | 10 |
| Difference, ... | - 15              | + 865·86                       | + 4859 | 5  | 4  | - 5                           | 1  | 8  |

82. The increase of area by 865·86 square miles, and decrease of cost per square mile by Rs. 5-1-8, are most favorable and creditable to the continued exertions of Mr. O'Donel, who is well qualified to deal with this particular description of survey, and deserves much commendation for the success he annually exhibits in this difficult country.

83. The tract surveyed is in two portions; the larger one consisting of the mountainous country adjoining the Chittagong District for 76 miles northwards, from a place called Tulukmee, on both banks of the Koladyne, and lies to the north of main circuits, Nos. 11 and 15, surveyed in 1857-58 and 59. It is bounded on the remaining sides by the Hills of the District of Chittagong, inhabited by Kookees, and the independent Shendoo or Poehs country, and the Lemroo circle. The extreme length of this portion is 79 miles, and the breadth 41 miles, giving an area of 2,072 square miles, all hilly ground, the whole of which demanded a trigonometrical survey, and was dealt with accordingly. The smaller portion constitutes the three islands, south of the mouth of the Koladyne river, and lying between Hunter's Bay and the Bay of Bengal.

84. The former portion of the country surveyed, is not only distant from the low-lands, and at the northern extremity of the District, extending up to the latitude of Chittagong, but most difficult of access, and quite destitute of resources. In order therefore to provide for the progress of the survey, and facilitate the operations, provisions and water had to be carried into the interior by coolies, and

|   | Rs.          | A.       | P.       |
|---|--------------|----------|----------|
| Presents to the Chiefs, ...                               | 1,104        | 2        | 5        |
| Coolies for carrying provisions, and cutting hill jungle) | 3,061        | 1        | 2        |
| Provision Depot, ...                                      | 288          | 1        | 9        |
| Total ...   | <u>5,443</u> | <u>5</u> | <u>4</u> |

this Department.

presents given to secure the friendly assistance of the hill Chiefs. For these and similar extra professional expenses, a special sum, Rs. 8,420 was sanctioned, on the recommendation of the Commissioner, by the Bengal Government, by letter No. 2,336, dated 22nd September 1859, of which the sum of Rs. 5,343-5-4, as per margin, was expended and not audited by

85. There are several other heavy items of contingent expenses incurred by this Surveyor, as specified in the margin. These, together with the sums noted above, make a total of Rs. 12,270-10-4, which, added to the sum during the season expended, raises the cost of the entire work of the season to Rs. 46,611-7-6, and the rate to Rs. 19-10-7 per square mile.

|                                 | Rs.   | A. | P. |
|---------------------------------|-------|----|----|
| Feed and keep of elephants, ... | 1,345 | 14 | 2  |
| Cutting jungle, ...             | 3,706 | 11 | 0  |
| Boat hire, ...                  | 1,874 | 11 | 10 |
| Total ...                       | 6,927 | 5  | 0  |

86. It is satisfactory to know that the conciliatory conduct of the Revenue Surveyor and his subordinates has been productive of the best results. Not a single complaint has been made on either side. No better idea of the country can be conveyed than by the simple statement of the fact, that out of an area of 2,370 square miles mapped, 22 square miles only are under cultivation, and the remainder, hills uninhabited chiefly, dense jungle, &c.

87. The records prepared by this party are detailed in the margin, and those intended for this Office have just been received, and will require time for careful examination. They are executed in this Surveyor's usual good style, and are valuable productions.

6 General maps of Main Circuits, Nos. 16 to 21, for Deputy Surveyor General's Office.  
 6 Duplicates of the above maps for the Civil Authorities.  
 One Atlas Volume, containing 25 village Plan sheets.  
 1 Ditto for the Civil Authorities.  
 6 Main Circuit Traverses in 1 Volume.  
 1 Volume containing 96 Traverses and 49 Registers.  
 1 Ditto containing 49 Registers, for the Civil Authorities.  
 1 Index map of the season's work.

88. The interior details exhibiting extent of cultivation, waste, &c., in the tracts near Akyab, have been most minutely delineated on the maps, so as to admit of a fair comparison with the areas ascertained from the measurements conducted by the Keoks, or native vil-

lage Putwarries. The differences have been within the prescribed percentage, but in 4 villages they are stated to have gone beyond 10 per cent, which should necessitate revision on the part of the Civil authorities. Every confidence may be placed in the correct representation of the topography of these intricate parts of the District, where the cultivation and waste seems so blended together.

89. The conduct of the Assistants throughout their arduous field duties is represented by Mr. O'Donel as very praise-worthy. They were exposed to more than ordinary privations amongst these rude hill people and in an uncongenial climate, especially Messrs. Pickard and Savage, who were most distant from the Head Quarters of the Revenue Surveyor. For the cheerfulness with which all privations have been submitted to, for unabated zeal under trying positions, and a determination to overcome all obstacles, Mr. O'Donel acknowledges his obligations, and especially, to his senior Assistant, Mr. Pickard. The native surveyors have likewise exerted themselves, and the most deserving of them have received suitable promotions to higher salaries.

90. A large area of hitherto totally unknown territory has been laid down, which will be very valuable on the general map of the Eastern Frontier, and for which special thanks are, I think, due to the Revenue Surveyor and his establishment.

the District of Akyab, the Kyouk Phyoo District of the Province of Arracan, next in succession to the south, will be taken up.

92. A suggestion has been made by the Revenue Surveyor to the Commissioner, to the effect that it may be desirable on the completion of the District of Akyab, to divide it into suitable geographical limits, so as to ascertain and finally determine the positions of circles and grants, and at the same time with the revenue definitions, the criminal or judicial boundaries might be very advantageously settled before the preliminary map of the District is published. I would add my recommendation to this excellent suggestion.

#### 6TH OR CHOTA NAGPOOR DIVISION.

93. The field operations of this Division, under the Superintendence of Captain

| NAMES.  | DATE OF APPOINTMENT. |
|---|----------------------|
| Captain G. H. Thompson, )<br>7th Regiment N. I., Reve- )<br>nue Surveyor, ... ) | 28th August 1850.    |
| <i>Assistants.</i>  |                      |
| Captain W. S. Row, 33rd )<br>Regiment N. I., ... )                              | 27th January 1856.   |
| Mr G. H. Blyth, ...   | 27th December 1846.  |
| Mr. W. Ellison, ...   | 1st November 1846.   |
| <i>Sub-Assistants.</i>  |                      |
| Mr. E. Billon, (Draftsman) }<br>resigned 1st January 1860, }                    | 1st October 1855.    |
| Mr R. Scott, ...  | October 1850.        |
| Mr. H. Billon, ...  | June 1852.           |
| Mr. P. H. W. Brady, ...   | 1st February 1860.   |
| Baboo Kirpa Ram, ...  | December 1846.       |
| And 24 Native Surveyors.  |                      |

Thompson, commenced on the 10th November 1859, with\* the establishment noted in the margin, and the system adopted in carrying on the work was identical with that of the preceding season, and which the nature of the country demands. A series of triangles, 50 in number, in continuation of those formerly completed, and carefully incorporated with nine Stations of the Great Trigonometrical Survey, had at first to be accurately laid down. On the points so determined, main circuits apportioning the country into convenient blocks were based, and connected with, when

the usual method of making the mouzawar sub-divisions was pursued.

94. The tract of country which has been surveyed, encircles the portion completed in 1858-59, on the north, east and south, lying to the north of the Grand Trunk Road, and immediately adjoining the District of Behar or Gyah and Monghyr, the boundary

along which is a very close and dense jungle. It was enclosed in 5 main circuits, containing the pergunnahs of the Kurruckdhea estate, named in the margin. The total area reported accomplished being 6,03,610·90 acres, or 943·14 square miles, the whole of it being mouzawar, over a very difficult and intricate country. The number of village circuits claimed by the surveyor amounts to 1,363, for the above area. On this area, the average of the village circuits comes to 442 acres each, or about  $\frac{3}{4}$ ds of a square mile.

95. In all surveys conducted on a trigonometrical basis, it is essential for the

#### EXTRACT.

9. " By the five main circuits thus arranged, each computed from the exterior sides of the triangles, within which the circuits respectively fall, the season's area 8,06,013·80 acres, or 1,259·39 square miles is contained.

triangulation to be well in advance of the topographical delineation, in order

This has all been triangulated and surveyed in main and sub-division circuit, but the detail or mouzawar survey has only been completed for three of the circuits and for a portion of a fourth circuit.

10. "The area by the three completed circuits is 514,966.30 acres, and they contain 1,059 village or traverse hulkahs. Allowing 66,884.60 acres, and 244 villages as *completed* work, for the work done in the other two circuits, also 21,760.00 acres and 60 villages for the detail survey of the Grand Trunk Road, which was not returned last year, and which has been calculated and mapped this season, we have an area of 6,03,610.90 acres or 943.14 square miles, and 1,363 villages as fair data, on which to calculate the season's rates.

11. "I trust that you will approve of this arrangement, as I cannot see how otherwise a fair area is to be fixed for the calculation of rates, or to give a condensed idea of what has been completed. It would not do to simply take the actual area of the mouzawar work that has been entirely completed, because the accuracy and completion of this mouzawar work entirely depended on the triangulation and main circuit work, (that would not thus be taken into consideration) moreover, the triangulation and main circuit work actually took up more than two months of the most important portion of the Establishment's time at the beginning of the season; and it must also be remembered, that the work done in the two incompletd rounds, for which, as an average, I have added on 66,884.60 acres, and 244 villages to the *completed* work consists of 79 villages, that have been entirely completed, 287 villages surveyed in boundary only, and 46 villages surveyed interiorly only, besides all the outer triangulation, main circuit, and sub-division line surveys of the two rounds."

Surveyor obtains his area is shown in the annexed Extract from his Report.

96. In consequence of the importance of the great high thoroughfare of this Presidency, I instructed the surveyor to carry out a special survey of the Trunk Road in his Division, on a large scale, (8 inches to the mile) to shew every thing of importance on either side. About 136 miles of this linear survey have been well accomplished, chiefly during the last rainy season when other field work was impracticable. The surveyor is fully entitled to credit for this portion of his work, which has occupied considerable time; no less than 12 large sheets of the plan have been prepared and rendered.

97. An excellent survey has likewise been made of the Cantonments and Civil Station of Hazareebaugh, which forms another and important part of the labors of the establishment, during the past season, and for which there is nothing to shew in the cost per square mile. The plan of this, on a scale of 8 inches to 1 mile, has been submitted.

98. A larger area, it was at first contemplated by Captain Thompson, would have been completed during the season, and for which the Revenue Surveyor had made due provision and all proper arrangements. These last however failed him in a hilly, broken country, through which the clearing of rays for the village boundary survey, through dense jungle, so materially retards progress. As a commencement, the out-turn is as much as could be expected and quite proportioned to the strength of an establishment hitherto untrained to this description of survey. Further experience will, I trust, give them the mastery over hitherto untried difficulties, which can only be attained by the personal exertions in the field of the European agency, and a careful study of the ground to be represented; and it is hoped that by abandoning for the future, the mouzawar sub-division in such a thickly covered country,—except for Government lands and such particular estates as may demand the larger scale plans for fiscal purposes, and giving a topographical delineation on the one inch scale, for all others, which will answer all purposes, a greater impression may be made on the extensive area we have to deal with in this division,—larger areas will be derived and consequently reduced rates.

99. The total expenditure for the season has been Rs. 37,677-1-11, on which the rates cast on the area given above will be Rs. 39-15-2 per square mile, and Rs. 27-10-3 per

that there may be plenty of fixed points on which the plane tables may be set for sketching the ground. Captain Thompson has acted on this principle, and the whole extent of country triangulated is found by calculation to be 1,259 square miles, the whole of which he could not fill in, and therefore, his detail parties will find sufficient country prepared as a start for them in the current season. The mode in which the Revenue

village circuit. These rates are higher considerably than those in perfectly open and highly cultivated Districts, but we must hope to reduce them as we go on and make a larger impression on the area. The work has been very much of the same character with that in Nagpoor, Saugor and Jubbulpoor, where the rates vary from Rs. 41 to 69 per square mile, so that for *bonâ fidé* mouzawar survey, the cost is not disproportionate. No comparison can be instituted between these results and the work performed in 1858-59, which, besides being altogether a partial and incomplete season for this party, owing to its arrival at Hazareebaugh from the Punjaub in the middle of February 1859, had other difficulties incidental to an initial season, and the total absence of all demarcations, to contend with, as detailed in the 55th and 56th paras of my last Report No. 37, dated 27th February last.

100. It will be observed that the cost of the season, as given above, Rs. 37, 677-1-11 is Rs. 153-1-11 in excess of the authorized maximum annual grant of Rs. 37,524. This slight excess over the maximum, the first we have ever had in Bengal, appears to have been caused by the very late period a large portion of the native establishment had to be kept out in the field, (up to the beginning of June), and the subsequent difficulty to retrench sufficiently to keep within the fixed limit. As a special and unavoidable case, this amount has been passed, and will be defrayed out of the general savings, which, as will be seen from Table E, amount to Rs. 8,642, even after meeting the salary of the Revenue Surveyor's deputation as Boundary Commissioner, Major W. S. Sherwill.

101. The contingent expenses of this Division are detailed in the margin, and

|   | Rs.  | A. | P. |
|---|------|----|----|
| Feed and keep of elephants, ... ..      | 549  | 2  | 11 |
| Travelling allowance, ... ..            | 106  | 0  | 0  |
| Carriage of Government property, ... .. | 18   | 6  | 0  |
| Cost of Office Building, ... ..         | 1143 | 14 | 1  |
| Total, ... ..                           | 1817 | 7  | 0  |

amount to Rs. 1,817-7-0, which, added to the regular expenditure of the season, brings it up to Rs. 39,494-8-11, and the ratio per square mile and per village circuit to Rs. 41-14-0, and Rs. 28-15-7, respectively.

102. The maps and other documents exhibiting the results of the season's labors are enumerated in the margin, but of these the only ones received in this Office up to date, are the index map of the season's work, one map of Main Circuit, No. 3, and 12 sheets of the Grand Trunk Road, on the large scale of 8 inches to the mile.

56 Sheets of congregated village Plans, on the 1/4 mile scale.  
 Duplicate copies of the above.  
 3 Main Circuit Maps, on the one mile scale.  
 Duplicate copies of the above.  
 1 Index Map to the season's operations, on the 4 mile scale.  
 12. Sheets of the Grand Trunk Road survey.

The remaining maps are daily expected, and the whole will be examined together. The style and execution of those already rendered is highly satisfactory, and an improvement on those of the former season.

103. Captain Thompson has had a very arduous season's work, the Civil duties adding very largely to his sphere of superintendance, and he is entitled to much commendation for the zeal and energy he brings to bear on all he undertakes, and for the able manner in which he turns out all his work.

104. The Revenue Surveyor has submitted to the Board, direct, a separate report of the work performed by himself in the demarcation or Civil branch. The detail village

areas, and registers of the season, are in a fair way towards completion, and those of the preceding season have been finished and made over to the Settlement Officers.

105. Captain Row, Assistant Revenue Surveyor, on his return from sick leave to England, was appointed to this Division by Government Order No. 2149, dated 30th April last, and joined at Hazareebaugh, on the 15th May last, in time only for the recess duties on which he has been since employed, having made himself most useful in this respect. In consequence of the Orders of the Government of India to raise a new party for Oudh, I was necessitated to transfer Mr. W. Ellison, Assistant Revenue Surveyor, to the Nag-poor 2nd Division (*vide* G. O. G. G. in the Foreign Department, No. 4614, dated 5th October last,) and on the conclusion of his portion of the work at Hazareebaugh, he proceeded to join Mr. P. H. W. Brady, a young man of European parentage, having passed the usual examination in the qualification test of the Department, and proving a very promising candidate, was appointed to this Division, by Government Order No. 2437, dated 30th April 1860, to fill up a vacancy created by the resignation by Mr. E. Billon, Draftsman, on the 1st January last.

106. For the work of the current season, parties left on the 15th October to fix points for triangulation and for line cutting, and as Captain Thompson reports the completion of the demarcation of the whole of the Burhee Sub-division, he fully anticipates the professional survey will likewise be entirely accomplished—an area, roughly estimated at 1,700 square miles, of which 200 square miles only will be subdivided mouzawar, and the balance a topographical delineation of the country, with the boundaries of the large estates shewn. If this result is realized, it will go far to balance the heavy rate of the present season's work.

107. On the subject of the best description of survey for this Division, a lengthened correspondence has recently taken place, as cited marginally; and as the question is pending before His Honor, the Lieutenant Governor, it is not necessary to advert to it further in this place, or to bring again all the arguments forward in support of the view taken by the Commissioner, the Surveyor, the majority of the Board of Revenue and myself, and which is also recommended in the foregoing remarks.

No. 10 dated 3rd Dec. 1860,  
from Deputy Surveyor General  
to Government of Bengal.

correspondence has recently taken place, as cited marginally; and as the question is pending before His Honor, the Lieutenant Governor, it is not necessary to advert to it further in this place, or to bring again all the arguments forward in support of the view taken by the Commissioner, the Surveyor, the majority of the Board of Revenue and myself, and which is also recommended in the foregoing remarks.

108. A copy of this Report has been furnished to the Board of Revenue.

I have &c.,

(Signed) H. L. THUILLIER,  
*Deputy Surveyor General of India.*

(True Copy.)

H. L. THUILLIER,  
*Deputy Surveyor General of India.*

TABLE A.

GENERAL RETURN of Professional Work for Season 1859-60, from 1st October 1859 to 30th September 1860, exhibiting Cost, Area and average Rates per Square Mile and per Circuit.

| Divisions.                                      | Names of Superintending Officers &c.  | Names of Districts and Pergannahs.  | Number of Per-Runnals | Number of Per-Runnals or Circuits. | Number of Mouths.   | Number of Mouths.                          | Number of Inlets or Traverses. | Average size of Traverses. | AREA SURVEYED. |                  | Cost of work including Guard. | Average rate per Square Mile. | Average rate per Circuits. |
|---|---|---|-----------------------|------------------------------------|---------------------|--|--------------------------------|----------------------------|----------------|------------------|-------------------------------|-------------------------------|----------------------------|
|   |   |   |                       |                                    |                     |  |                                |                            | In acres.      | In square Miles. |                               |                               |                            |
| East or North.                                  | Mr. J. J. Pemberton, Revenue Surveyor, from 1st Oct. 1860 (Deceased).<br>Mr. R. A. Smith, Assistant Revenue Surveyor, in charge from 18th March to 30th September 1860. | Dhargapoor.   | 3                     | 3                                  | 1048                | 1048                                       | 579.50                         | 601085.79                  | 939.11         | 28,109 13 0      | 20 14 10                      | 26 13 1                       |                            |
|   |   | Pergannahs Deora Noorpoor &c., Dehatta and Subaree, ...<br>Kooch Behar.<br>Topographical Survey<br>Mehalwarree calculation, ...   | 3                     | 3                                  | 1048                | 1048                                       | 579.50                         | 601085.79                  | 939.11         | 28,109 13 0      | 20 14 10                      | 26 13 1                       |                            |
| South.  | Captain J. L. Shorvell, Off-acting Revenue Surveyor, ...  | Dhargapoor.   | 3                     | 3                                  | 1048                | 1048                                       | 579.50                         | 601085.79                  | 939.11         | 28,109 13 0      | 20 14 10                      | 26 13 1                       |                            |
|   |   | Pergannahs Madonabatee Debikote, Polahasse, Kanigore, Babunpoor and Ghorah, Khas Talook, Surbhutta Soolkanpoor &c. &c., and portions of Sagoonah and Subaree, ...<br>Mehalwarree calculation, ... | 3                     | 3                                  | 1048                | 1048                                       | 579.50                         | 601085.79                  | 939.11         | 28,109 13 0      | 20 14 10                      | 26 13 1                       |                            |
| East.   | Mr. N. T. Davey, Revenue Surveyor, ...  | Dacca.  | 0                     | 3                                  | 1,908               | 1,908                                      | 306.91                         | 563890.42                  | 912.81         | 30,860 4 10      | 20 0 11                       | 16 2 8                        |                            |
|   |   | Pergannahs (not given), ...<br>Megnah River Channel, ...<br>Ganges ditto (half area taken from 4th Division), ...<br>Mehalwarree calculations, ...  | 0                     | 3                                  | 1,908               | 1,908                                      | 306.91                         | 563890.42                  | 912.81         | 30,860 4 10      | 20 0 11                       | 16 2 8                        |                            |
| West.   | Captain J. E. Gastrell, Revenue Surveyor, ...   | Dacca.  | 0                     | 9                                  | 1,908               | 1,914                                      | 355.13                         | 679029.11                  | 1062.24        | 641,700 11 7     | 29 14 10                      | 16 9 8                        |                            |
|   |   | Furzedpoor parts of, ...<br>Bakergunge parts of, ...<br>Mehalwarree calculation, ...  | 0                     | 9                                  | 1,908               | 1,914                                      | 355.13                         | 679029.11                  | 1062.24        | 641,700 11 7     | 29 14 10                      | 16 9 8                        |                            |
| A.  | Mr. J. H. O'Donel, Revenue Surveyor, ...  | Akoyab.   | 0                     | 21                                 | 1,785               | 1,785                                      | 526.73                         | 945568.62                  | 1477.45        | 653,867 1 1      | 24 4 3                        | 20 1 5                        |                            |
|   |   | River Circuits, ...<br>Mouzzar Survey, ...<br>Topographical Survey, ...   | 0                     | 21                                 | 1,785               | 1,785                                      | 526.73                         | 945568.62                  | 1477.45        | 653,867 1 1      | 24 4 3                        | 20 1 5                        |                            |
| Choita.   | Captain G. H. Thompson, Revenue Surveyor, ...   | Hazaribagh.   | 0                     | 5                                  | 1,363               | 1,363                                      | 442.85                         | 608610.90                  | 943.14         | 37,677 1 11      | 30 15 2                       | 27 10 3                       |                            |
|   |   | Pergannahs Sutgawan, Doothun Gawan, Dorcondah Goomo Chis, Burmote Ranpoor Murkuteo and Khurgallee, ...  | 0                     | 5                                  | 1,363               | 1,363                                      | 442.85                         | 608610.90                  | 943.14         | 37,677 1 11      | 30 15 2                       | 27 10 3                       |                            |
| d   | Averages exclusive of Mehalarree Calculation and of Araccau Survey in rate of Village Circuit, ...  |   | 48                    | 22 & portions of 2                 | 8,592 & 33 blocks,  | 7,293 33 blocks & 17 River Circuits, ...   | 729.12                         | 528952.40                  | 8269.05        | 206,009 10 3     | 24 14 10                      | 23 15 9                       |                            |
|   |   |   | 48                    | 22 & portions of 2                 | 8,592 and 33 blocks | 7,293 33 blocks and 17 River Circuits, ... | 729.12                         | 528952.40                  | 8269.05        | 206,009 10 3     | 24 14 10                      | 23 15 9                       |                            |
| Grand Total and average inclusive of above, ... |   |   | 48                    | 22 & portions of 2                 | 8,592 and 33 blocks | 7,293 33 blocks and 17 River Circuits, ... | 729.12                         | 528952.40                  | 8269.05        | 206,009 10 3     | 24 14 10                      | 23 15 9                       |                            |

a Exclusive of Rs. 750-1-11 deputation allowance of Mr. Moran and party, and of Rs. 115-14-0 fines credited to Government. b Exclusive of Rs. 60-8-0 for mapping and fines credited to Government.

JR SURVYOR GENERAL'S OFFICE,   
 Luckia, the 30th December 1860.   
 E. W. HOPNER,   
 Assistant Revenue Surveyor.

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

TABLE B. 321

*GENERAL STATEMENT of Expenses of Native Establishment of each Survey for Season 1859-60.*

| DIVISIONS.   | Survey Districts.                   | Superintending Officers.   | Professional Survey including Guard and Mehalwarree Computers. | Total             |
|--|-------------------------------------|--|--|-------------------|
|  |                                     |  | <i>Rs. As. P.</i>  | <i>Rs. As. P.</i> |
| North or Northern Division, ... ..   | Dinagepoor and Kooch Behar ... ..   | Mr. J. J. Pemberton, Revenue Surveyor (deceased) Mr. R. A. Smith Assistant Revenue Surveyor, in charge, ... .. | 13,907 2 8   | 13,907 2 8        |
| South or Southern, ... ..  | Dinagepoor, ... ..                  | Captain J. L. Sherwill, Officiating Revenue Surveyor, ... ..   | 16,208 15 8  | 16,208 15 8       |
| East or Eastern, ... ..  | Dacca, ... ..                       | Mr. N. T. Davey, Revenue Surveyor, ... ..  | <i>a</i> 14,021 8 11   | 14,021 8 11       |
| West or Western, ... ..  | Furreedpoor and Backergunge, ... .. | Captain J. E. Gastrell, Revenue Surveyor, ... ..   | <i>b</i> 14,179 14 3   | 14,179 14 3       |
| Arracan or Arracan, ... ..   | Akyab, ... ..                       | Mr. J. H. O'Donel, Revenue Surveyor, ... ..  | 14,576 1 10  | 14,576 1 10       |
| Chota Nagpoor or Chota Nagpoor, ... ..   | Hazareebaugh, ... ..                | Captain G. H. Thompson, Revenue Surveyor, ... ..   | 16,078 0 5   | 16,078 0 5        |
| Total, ... ..  |                                     |  | 88,971 11 9  | 8,8971 11 9       |
| Superintending Officers and Contingencies, ... ..                              |                                     |  | 50,797 2 7   | 50,797 2 7        |
| European Assistants, ... ..  |                                     |  | 68,893 9 7   | 68,893 9 7        |
| Total Rupees, ... ..   |                                     |  | 208,662 7 11   | 208,662 7 11      |
| <i>a</i> Exclusive of Rs. 78 11 8 for the erection of Masonry Pillars.         |                                     |  |  |                   |
| <i>b</i> Inclusive of Rs. 30 0 0 for mapping, credited to Government.          |                                     |  |  |                   |
| Difference ... 48 11 8 additive to the above to correspond with Table A ... .. |                                     |  | 48 11 8  | 48 11 8           |
| Total corresponding with Table A ... ..  |                                     |  | 208,711 3 7  | 208,711 3 7       |

REVENUE SURVEYOR GENERAL'S OFFICE, }  
Calcutta, the 20th December 1860. }

(True Copy,  
E. W. HOPNER,  
Assistant Revenue Surveyor.

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



**TABLE E.**

**GENERAL STATEMENT of Sums actually drawn, inclusive of Guards, for the Six Revenue Surveys, during Season 1859-60, exhibiting amount short-drawn in each Class.**

| MONTHS.                     | Superintending Officers and Contingent Allowances. |       | European Assistants. |       | Native Establishment inclusive of metadawars computers. |       | Guards. |       | Total.   |    |
|-----------------------------|--|-------|----------------------|-------|---|-------|---------|-------|----------|----|
|                             | Rs.  | A. P. | Rs.                  | A. P. | Rs.   | A. P. | Rs.     | A. P. |          |    |
| October 1859.               | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| November 1859.              | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| December 1859.              | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| January 1860.               | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| February 1860.              | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| March 1860.                 | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| April 1860.                 | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| May 1860.                   | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| June 1860.                  | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| July 1860.                  | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| August 1860.                | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| September 1860.             | 4,218  | 0     | 5,493                | 6     | 4,173   | 3     | 248     | 1     | 13,682   | 10 |
| Total drawn for each class  | 50,797   | 2     | 63,893               | 7     | 50,797  | 2     | 3,500   | 0     | 2,08,662 | 7  |
| Total passed for each class | 52,272   | 0     | 82,080               | 0     | 53,880  | 0     | 6,012   | 0     | 2,25,144 | 0  |
| Total savings to Government | 1,474  | 13    | 13,186               | 6     | * 1,501   | 11    | 3,521   | 15    | c 16,481 | 8  |

  

| SURVEYS.                  | Surveyors and Contingent Allowances. |       | Guards. |       | Cases or measurements. |       | Maharances or computers. |       | Total expense.               |       | Total savings. |       |
|---------------------------|--------------------------------------|-------|---------|-------|------------------------|-------|--------------------------|-------|------------------------------|-------|----------------|-------|
|                           | Rs.                                  | A. P. | Rs.     | A. P. | Rs.                    | A. P. | Rs.                      | A. P. | Rs.                          | A. P. | Rs.            | A. P. |
| 1st or Northern Division. | 7,640                                | 9     | 10,167  | 8     | 6,381                  | 0     | 423                      | 0     | 32,025                       | 5     | 6,489          | 11    |
| 2nd or Southern Division. | 8,712                                | 0     | 12,080  | 3     | 7,056                  | 2     | 231                      | 0     | 37,010                       | 2     | 519            | 13    |
| 3rd or Eastern Division.  | 7,745                                | 15    | 9,944   | 7     | 6,320                  | 13    | 821                      | 5     | 31,711                       | 15    | 3,812          | 0     |
| 4th or Western Division.  | 8,712                                | 0     | 13,065  | 2     | 8,011                  | 2     | 0                        | 0     | 35,800                       | 1     | 1,656          | 14    |
| 5th or Aracan Division.   | 8,934                                | 9     | 10,820  | 2     | 8,011                  | 2     | 0                        | 0     | 34,120                       | 13    | 3,183          | 2     |
| 6th or Chota Nagpore Dn.  | 8,712                                | 0     | 11,887  | 1     | 8,376                  | 0     | 0                        | 0     | 37,677                       | 1     | 0              | 0     |
| Total.                    | 50,797                               | 2     | 63,893  | 7     | 42,807                 | 3     | 2,447                    | 1     | 2,08,662                     | 7     | 16,634         | 10    |
|                           |                                      |       |         |       | 85,381                 | 11    | 0                        |       | Minus Excess of 6th Division |       | 153            | 1     |
|                           |                                      |       |         |       |                        |       |                          |       |                              |       | 16,481         | 8     |

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

Deduct non-professional charges as follows:—  
 Deputation to Mr. Moran and Party } 750 4 11  
 Travelling allowance to Mr. Deputation to Joychunder } 167 13 7  
 Mr. Deputation to Joychunder } 284 4 6  
 Mr. Deputation to Joychunder } 176 6 0  
 Mapping and fines, ..... }  
 Major W. S. Sherwill's pay for one year, ..... } 6,312 0 0

Savings if non-professional charges be included, .....  
 Deduct half staff pay to Captain W. S. Row, from 9th April to 14th May 1860, returned from England, .....  
 Saving to Government after payment of all charges, ..... 8,642 10

a Exclusive of Rs. 75-11-8  
 b Inclusive of Rs. 30-10-1 ut supra.  
 c Savings after paying for the excess of the 6th Division, viz. Rs. 153-1-11.

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

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

REVENUE SURVEYOR GENERAL'S OFFICE,  
 Calcutta, the 20th December 1860.

(Time Copy.)

**T A B L E F.**

**STATEMENT of the Savings in each Class of the undermentioned Surveys respectively for Season 1859-60.**

| SURVEYS.   | Superintending Officers.   | Supdg. Officers and Contingent allowance. |       | Assistants.            |       | Native establishment, inclusive of mehalwaree computers. |       | Guards.            |       | Total.        |
|--|--|---|-------|------------------------|-------|--|-------|--------------------|-------|---------------|
|  |  | Rs.                                       | A. P. | Rs.                    | A. P. | Rs.  | A. P. | Rs.                | A. P. |               |
| 1st or Northern Division, ...  | Mr. J. J. Pemberton, Revenue Surveyor, (deceased)<br>Mr. R. A. Smith, Assistant Revenue Surveyor in charge, temporarily, ... | 731                                       | 6 6   | 3,542                  | 7 2   | 452  | 13 4  | 772                | 0 0   | 5,498 11 0    |
| 2nd or Southern Division, ...  | Captain J. L. Sherwill, Offg. Revenue Surveyor, ...  | 0   | 0 0   | 1,590                  | 12 10 | 0  | 0 0   | 613                | 6 1   | 2,204 0 11    |
| 3rd or Eastern Division, ...   | Mr. N. T. Davey, Revenue Surveyor, ...   | 966                                       | 0 2   | 3,735                  | 8 10  | 488  | 13 1  | 621                | 10 0  | a 5,812 0 1   |
| 4th or Western Division, ...   | Captain J. E. Gastrell, Revenue Surveyor, ...  | 0   | 0 0   | 674                    | 13 2  | 239  | 0 3   | 713                | 1 6   | b 1,626 14 11 |
| 5th or Arracan Division, ...   | Mr. J. H. O'Donel, Revenue Surveyor, ...   | 0   | 0 0   | 2,849                  | 13 11 | 116  | 0 6   | 439                | 13 8  | 3,405 12 1    |
| 6th or Chota Nagpore Division, ...   | Captain G. H. Thompson, Revenue Surveyor, ...  | 0   | 0 0   | 792                    | 14 6  | 0  | 0 0   | 162                | 0 0   | 954 14 6      |
|  | Total of Savings, ...  | 1,697                                     | 6 8   | 13,186                 | 6 5   | 1,296  | 11 2  | 3,321              | 15 3  | 19,502 7 6    |
|  | Overdrawn as detailed below, ...   | 222                                       | 9 3   | 0                      | 0 0   | 2,798  | 6 2   | 0                  | 0 0   | 3,020 15 5    |
|  | Balance as shewn in Table E, ...   | 1,474                                     | 13 5  | 13,186                 | 6 5   | * 1,501  | 11 0  | 3,321              | 15 3  | 16,481 8 1    |
| <b>STATEMENT OF SUMS OVERDRAWN IN EXCESS OF ANNUAL MAXIMUM FOR EACH CLASS.</b> |  |   |       |                        |       |  |       |                    |       |               |
| Surveys.   | Superintending Officers.   | Excess for Superintending Officers.       |       | Excess for Assistants. |       | Excess for Native Establishment.                         |       | Excess for Guards. |       | Total excess. |
|  |  | Rs.                                       | A. P. | Rs.                    | A. P. | Rs.  | A. P. | Rs.                | A. P. |               |
| 1st or Northern Division, ...  | Mr. Pemberton (deceased) Mr. Smith in charge, ...  | 0   | 0 0   | 0                      | 0 0   | 0  | 0 0   | 0                  | 0 0   | 0 0 0         |
| 2nd or Southern Division, ...  | Captain Sherwill, ...  | 0   | 0 0   | 0                      | 0 0   | 1,690  | 5 9   | 0                  | 0 0   | 1,690 5 9     |
| 3rd or Eastern Division, ...   | Mr. Davey, ...   | 0   | 0 0   | 0                      | 0 0   | 0  | 0 0   | 0                  | 0 0   | 0 0 0         |
| 4th or Western Division, ...   | Captain Gastrell, ...  | 0   | 0 0   | 0                      | 0 0   | 0  | 0 0   | 0                  | 0 0   | 0 0 0         |
| 5th or Arracan Division, ...   | Mr. O'Donel, ...   | 222                                       | 9 3   | 0                      | 0 0   | 0  | 0 0   | 0                  | 0 0   | 222 9 3       |
| 6th or Chota Nagpore Division, ...   | Captain Thompson, ...  | 0   | 0 0   | 0                      | 0 0   | 1,108  | 0 5   | 0                  | 0 0   | 1,108 0 5     |
|  | Total as shewn above, ...  | 222                                       | 9 3   | 0                      | 0 0   | 2,798  | 6 2   | 0                  | 0 0   | 3,020 15 5    |

a. Exclusive of Rupees 78-11-8 }  
b. Inclusive of Rupees 30-0-0 } at supra.

(True Copy,)

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

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

No. 379.

350

FROM

E. GREY, Esq.,

*Superintendent of Survey,*

1ST OR NORTHERN DIVISION,

To

THE SECRETARY TO THE BOARD OF REVENUE, L. P.,

FORT WILLIAM,

*Dated DINAGEPOOR, the 10th November 1860.*

SIR,

I HAVE the honor to submit the usual Annual Statements, showing the amount of work performed during the year 1859-60, in the 1st or Northern Division of Survey.

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

| Names of Officers.                                     | Number of Hulkas demarcated. | Number of Thakbusts made over to the Surveyor. | Boundary disputes decided. | Izad and Adimunnishan cases decided. | Duplicates of Maps. | Miscellaneous cases decided. | Appeals decided. | Registers completed and sent to the Collector. | Arrears disposed of. |
|--|------------------------------|--|----------------------------|--------------------------------------|---------------------|------------------------------|------------------|--|----------------------|
| E. Grey, Esq., Superintendent, ... .. }                | 0                            | 5918   | 4                          | 244                                  | 0                   | 624                          | 68               | 11   | 2239                 |
| J. F. Browne, Esq., Assistant Superintendent, ... .. } | 0                            | 0  | 5                          | 36                                   | 1                   | 16                           | 0                | 0  | 525                  |
| Baboo Mohindernath Bose, Deputy Collector. ... .. }    | 0                            | 0  | 57                         | 256                                  | 13                  | 282                          | 0                | 0  | 1279                 |
| Baboo Issenchunder Dutt, Deputy Collector, ... .. }    | 0                            | 0  | 0                          | 11                                   | 5                   | 70                           | 0                | 0  | 342                  |
| Total, ... ..  | 0                            | 5918   | 66                         | 547                                  | 18                  | 992                          | 68               | 11   | 4885                 |

3. In accordance with the arrangements made for the past season, the greater portion of the Field establishment attached to this Division was transferred to the three other Divisions. Three Peshkars and 30 Ameens only were retained under my orders.

4. The demarcation of the Dinagepoor District having been completed, the only field work which remained to be effected was, the internal demarcation of such mehals in the Districts of Dinagepoor and Rungpoor as were found to have been previously omitted.

5. In this and other miscellaneous work, the establishment above mentioned were fully occupied until the setting in of the rains, when one Peshkar and 10 Ameens were deputed to Pubnah for the purpose of repairing injuries, sustained by the survey record there, and the remaining number were employed at Head Quarters. One Peshkar was deputed towards the end of the cold season to assist the Collector of Rungpoor in the settlement of the Kooch Behar frontier.

6. In the month of December, the Deputy Collector, Baboo Mohindernath Bose, proceeded into the interior for the purpose of deciding on the spot the boundary disputes which remained pending from the previous season. He was occupied in this work and in superintending the demarcations of mehals until the middle of May, when he returned finally to Head Quarters. All the disputes pending were decided, except 4, which were unavoidably postponed. From the date of his return to the end of the year, the Deputy Collector has been occupied in completing the towjee nikas of the Pergunnahs made over to him, and in the preparation of the Registers of Zilla Dinagepoor.

7. The Assistant Superintendent, Mr. J. F. Browne, returned from leave of absence early in December, and devoted his time until his transfer to the 2nd Division, in January, to the disposal of arrears in the towjee nikas.

8. My own attention has been devoted to the disposal of appeals, the miscellaneous work and the completion of the unfinished Registers of the Districts of Rajshahye, Bograh, Pubna and Rungpoor.

9. In the Registry Department, the progress made will, I think, on the whole, bear a favourable comparison with the work performed in previous years. I have used my best endeavours throughout the year to push on the work, and though I should have wished to be able to report greater progress than is shewn in the Statements, still bearing in mind the difficulties which beset this business, I feel satisfied that any apparent shortcomings are due only to causes which I would gladly remove if it were in my power to do so. I beg to annex a Statement, No. 6, showing the condition of the unfinished Registers.

10. In my last Annual Report, I ventured to suggest the adoption of some other mode of payment than that of fixed monthly salaries to the subordinates employed in this work. I still think that such an experiment is worthy of trial. Some difficulties would no doubt occur in arranging the details of the plan to be pursued, but they might, I think, be overcome by a little management.

11. The success of the scheme would of course depend upon the strictness of the supervision exercised by the Superintending Officer. Without such supervision, as is remarked by the Board in their Report to Government, there is very little doubt that quality would be sacrificed to quantity. But the same may be said of the system at present in force. Nothing but the most careful superintendence can ensure the correctness of the Registers as they are made up. My own practice is not to allow a letter or a figure to pass unchallenged, but to compare each entry with the original documents from which it is compiled. This practice, I could not have pursued to the same extent, had I not had at my disposal more time than is generally at the command of the Superintendent who has the work of a large field establishment to look after in addition to other

duties. Even with this additional call upon his time, my predecessor (Mr. Waterfield) was in the habit of scrutinizing every entry made before it was allowed to pass, and there can be no doubt that this practice is the only method by which accuracy can be ensured.

12. Admitting therefore that without the strictest supervision on the part of the Superintending Officer, the scheme proposed would fail in its object. I do not think that this admission furnishes any argument against a trial of it being made. The details of the plan would be out of place in this Report, but I hope before long to suggest some rules which might, I think, be adopted.

13. During the past year, some correspondence took place between the Commissioner and myself, regarding the forms to be observed in the imposition and levying of fines on Zemindars for neglect to supply information required of them. Under the system in force at present, it is customary to issue in the first instance a notice calling for the information required, and on failure of the Zemindar to comply with this request, to issue a second notice, informing him that from a certain specified date, a daily fine will be imposed upon him until the requisition made be complied with. Both these notices are served at the cost of Government and the expense incurred is often very great. It appears to me that the issue of a single notice calling for the information required and informing the Zemindar that failure to comply with the requisition by a certain date will render him liable to a daily fine, would answer every purpose and would cause no hardship to any one. The expense incurred by Government would be reduced to little more than half what it now amounts to, and much time would be saved in obtaining the information required. I think that this is a subject worthy of consideration. If any alteration in the law of process be necessary, I can see no reason why such should not be made.

14. I have already reported favourably of the conduct of Baboo Mohindernath Bose, Deputy Collector, during the past year. I have been entirely satisfied with the way in which he has performed his duties. He has lately been transferred to the 4th Division. The services of Baboo Issenchunder Dutt were transferred to the 4th Division early in the year.

I have the honor to be,

Sir,

Your most obedient Servant,

E. GREY,

*Superintendent of Survey,*

1ST OR NORTHERN DIVISION.

Annual Statement showing the condition of the uncompleted Registers of Zillahs Pubna, Bograh, Rungpoor, and Dinagepoor, during the year 1859-60, ending 30th September, 1860.

| Name of Division.    | Name of Zillah.    | Name of Pergunnah. | Mouzas.                                   | Mehals.  | REMARKS.   |
|----------------------|--------------------|--------------------|---|--|--|
| 1ST DIVISION SURVEY. | Pubnah ...         | Mahimshahee, ...   | 316                                       | 316  | Bengalee Registers completed, but the entries of two villages still remain.                                  |
|                      |                    | Mahamadshahee, ... | 412                                       | 412  |  |
|                      |                    | Nusrutshahee, ...  | 342                                       | 342  |  |
|                      | Bograh ...         | Selburuss, ...     | 1434                                      | 196  | Bengali Registers completed, but the entries of 39 Villages still remain.<br>Finished during the last month. |
|                      |                    | Khatta, ...        | 1428                                      | 117  |  |
|                      |                    | Mehmanshahee, ...  | .....                                     | .....  |  |
|                      | Rungpoor,          | Futtepoor, ...     | 355                                       | 23   | 255 Mouzas & all the Mehals remain to be entered.  |
|                      |                    | Mauthana, ...      | 192                                       | 10   | 160 Ditto ditto.   |
|                      |                    | Udusee, ...        | 86  | 4  | 65 Ditto ditto.  |
|                      |                    | Bamandanga, ...    | 228                                       | 4  | 201 Ditto ditto.   |
|                      |                    | Koondee, ...       | 505                                       | 30   | 12 Ditto ditto.  |
|                      |                    | Bhitarbund, ...    | 276                                       | 105  | 50 Mouzas and 15 mehals remain to be entered.  |
|                      |                    | Sarooppoor, ...    | 112                                       | 17   | 41 Mouzas and all the mehals remain to be entered.   |
|                      |                    | Payrabund, ...     | 210                                       | 5  | Not yet taken in hand.   |
|                      |                    | Kajeerhat, ...     | 794                                       | 248  | Ditto.   |
|                      |                    | Kakina, ...        | 231                                       | 29   | Ditto.   |
|                      |                    | Idrakpoor, ...     | 43  | 15   | Ditto.   |
|                      |                    | Boda, ...          | 1063                                      | 300  | Ditto.   |
|                      |                    | Toolseeghat, ...   | 77  | 6  | 6 Mouzas and 2 mehals remain to be entered.  |
|                      |                    | Panga, ...         | 338                                       | 4  | 38 Mouzas & all the mehals remain to be entered.   |
|                      |                    | Basattee, ...      | 77  | 4  | 5 Ditto ditto.   |
|                      |                    | Boirisakhpala, ... | 51  | 7  | 2 Mouzas and 2 Mehals remain to be entered.  |
|                      |                    | Peree, ...         | 60  | 10   | Complete in Bengalee, but not translated.  |
|                      | Boiriperee, ...    | 56                 | 9   | 5 Mouzas and 2 Mehals remain to be entered.      |  |
|                      | Masta, ...         | 41                 | 1   | Complete in Bengalee, but not translated.        |  |
|                      | Mymuntpoor, ...    | 31                 | 2   | 5 Ditto ditto.                                   |  |
|                      | Bahirbund, ...     | 588                | 78  | 200 Mouzas remain to be entered.                 |  |
| Boikoonthapoor, ...  | 65                 | 31                 | Complete in Bengalee, but not translated. |  |  |
| Dinagepoor           | Kharail, ...       | 90                 | 3   | 34 Mouzas & all the Mehals remain to be entered. |  |
|                      | Maseedha, ...      | 384                | 11  | 178 Ditto ditto.                                 |  |
|                      | Kardaha, ...       | 558                | 49  | 402 Ditto ditto.                                 |  |
|                      | Futtejungpoor, ... | 589                | 5   |  |  |
|                      | Santos, ...        | 1863               | 115                                       |  |  |
|                      | Gilahabaree, ...   | 611                | 60  |  |  |
|                      | Aleegaon, ...      | 92                 | 5   |  |  |
|                      | Kautanagar, ...    | 399                | 1   |  |  |
|                      | Jahangeerpoor, ... | 1855               | 13  | These are not yet taken in hand.                 |  |
|                      | Poostail, ...      | 551                | 11  |  |  |
| Chaloon, ...         | 60                 | 8                  |   |  |  |
| Bijanagar, ...       | 630                | 38                 |   |  |  |
| Susbeer, ...         | 215                | 20                 |   |  |  |
| Chowra, ...          | 362                | 13                 |   |  |  |
| Alechat, ...         | 15                 | 1                  |   |  |  |

FROM

J. F. BROWN, Esq.,

*Officiating Superintendent of Survey,*

2ND DIVISION,

TO

THE SECRETARY, BOARD OF REVENUE, L. P.,

FORT WILLIAM.

*Dated COOMILLA, the 5th November, 1860.*

SIR,

I HAVE the honor to submit herewith the usual Annual Statements of this Division, for the year ending 30th September, 1860. Statement No. 3 has already been submitted by the Collector of Burdwan.

2. Mr. H. A. Cockerell was in charge of this Division till the end of December 1859, when he was appointed Joint-Magistrate of Baraset. I was unable to join my appointment till the end of February 1860, when I at once proceeded to the camp of Mr. Davey, Deputy Collector, who had been working, since the first of January, in the northern part of the district.

3. The following suggest themselves to me as the most convenient heads under which to review the work performed in this Division during the past year :

1st.—COLLECTORY LISTS.—To this portion of the work my principal attention has been directed; the villages of every pergunnah have been arranged in alphabetical order; original and derived pergunnahs carefully distinguished; a complete list of MEHALS drawn up, and all such inaccuracies as were capable of detection brought to the notice of the Collector with a view to their correction. A number of pergunnah lists connected with the estates of the Rajah of Tipperah are now being remodelled by the Collector. This has been rendered necessary by the circumstance that villages were therein erroneously noted as belonging to two or three pergunnahs, when they in reality appertained to one Pergunnah only. The source of such confusion has been clearly ascertained. It arose from the practice followed by former Rajahs of separating as Talookas portions of old pergunnahs, and calling such portions by new pergunnah names. The quinquennial papers filed in the Collectorate had been drawn up partly with and partly without reference to the existence of such new or derived pergunnahs. Hence an erroneous distribution of villages has ensued.

The Talookas however, which coincide with the derived pergunnahs are of old standing, and the villages which appertain to them are well known. I have therefore no doubt that the Collector, who has already called on the Rajah for the necessary information, will be able to effect, with little difficulty, the requisite re-arrangement of the Mouzashoomaree lists. With the exception of the aforesaid obstacles now in course of removal, the pergunnahs above alluded to present peculiar facilities for speedy registry, as nearly the whole of the lands appertaining to them have been settled by Government as *ono mehal* with the Rajah of Tipperah.

No difficulties connected with the intermixture of estates and accounting for the lands of which they consist need therefore be anticipated. The remaining pergunnah lists of this District are, as far as can be ascertained without local investigation, correct and perfectly serviceable as a ground work for survey operations. Here I must record my deep sense of the cordial assistance afforded to me by the Magistrate and Collector of Tipperah, Mr. Gordon, who, notwithstanding his multifarious occupations, has always found time to issue without delay on the Zemindars such orders as I deemed advisable should proceed from him as the head Revenue Officer of this Zillah. His present active co-operation in effecting the revision of the papers connected with the Rajah's estates, and the steps already taken by him at my request to ensure the correct demarcation of the numerous Government Khass mehals under his charge, cannot but most materially facilitate the progress of the survey in this District.

2nd.—**DEMARCATIONS.**—Mr. Davey, Deputy Collector, with 30 Ameens and 3 Peshkars, broke ground in the north of the District on the 1st January, 1860, taking up in accordance with the instructions received by my predecessor from the Deputy Surveyor General, the wedge shaped tract of country which adjoins Mymensing, Sylhet and Dacca. Owing to the early inundations which are usual in this District, he was unable to carry on demarcations after the 1st of June. The area demarcated by him is between 6 and 700 square miles, and the number of village circuits completed is 1,024. Such an out-turn of work, from so small a party during their first season (only 4 months) in a new District is, I venture to affirm, highly satisfactory as far as quantity is concerned. Of the quality of the work I can at present say but little, as the examination of the maps by the Khusrah Moonshee and the comparison of the Izhar's statements has not yet been completed. As far as what I have seen, can enable me to judge, it is by no means below the average.

3rd.—**BOUNDARY DISPUTES.**—This portion of the work has not been carried on to my satisfaction. The constant references to the Collector which were necessitated by the examination of the Mouzashoomaree papers, rendered it impossible for me to remain any length of time in Mr. Davey's camp without detriment to what I considered indispensable to the success of this survey, viz., the preliminary preparation of an accurate and trustworthy record as a basis for future investigations: I was therefore unable to exercise such a close supervision over Mr. Davey's Office as might have prevented the existence of arrears in boundary cases. On that Officer's return to the Station, I investigated the state of his files, and found that the Peshkars and Ameens had been most remiss in reporting at once the existence of disputes, and that Mr. Davey, owing to a want of method in carrying on this portion of his work, had failed, till too late, in detecting and preventing the irregularities of his subordinates. In order to obviate the recurrence of a similar state of things, I have addressed to him a series of Roobokarees, pointing out the different steps which should be pursued by him in order to ensure the rapid reporting to and decision by him or his Peshkars of all such disputes as may arise in the course of demarcation; and it is my intention to assume hereafter temporary charge of his Office, in order to satisfy myself that my instructions are strictly adhered to both by him and by his subordinates. In order however to prevent Mr. Davey's arrears from having a detrimental effect on the next season's operations, I would strongly recommend that the services of a second Deputy Collector and 10 Ameens be placed at my disposal with the least possible delay. As the field establishment of the 4th Division has lately been broken up, such an arrangement is, I opine, very feasible.



4th.—TOUJEEENIKASH.—Owing to the small number of Ameens employed most, of the pergunnahs have been so very partially demarcated, that a comparison with the Collectory lists would not have answered any practical purpose. In such as have been wholly demarcated, the progress of the Towjeeenikash has been satisfactory. There is no doubt however that more might have been done, I have therefore, in order to ensure greater expedition in future, directed alphabetical indexes to be made of all such villages as have been actually demarcated in each pergunnah, the Thakbust number being inserted opposite each village name. Such an arrangement will, for the reasons detailed below, tend to remedy an evil which has been alluded to in the Board's last Report, *viz.*, the absence of any check on the work performed by Survey Amlah.

*First.*—Because no difficulty can be experienced in fixing the time within which such alphabetical indexes can be prepared, (the whole operation being purely mechanical.)

*Secondly.*—Because the alphabetical indexes when once prepared, will enable the Amlah either to find out without delay by their Thakbust numbers all such villages as have been demarcated, or to ascertain at once that the villages sought for have not been demarcated. They will therefore be unable to excuse short work by asserting that they have been two or three days searching for a single village as they now are in the habit of doing.

*Thirdly.*—Because the villages requiring investigation can, by the help of such indexes, be ascertained very rapidly and at once entered in the Izad and Adumnishan files, which admit of easy supervision both by the Deputy Collector and Superintendent, who, by going periodically through them can always detect unnecessary delays.

5th.—APPEALS.—Of these only 6 are still in abeyance, owing to their having been instituted towards the close of the survey year. Fourteen of Mr. Davey's decisions have been confirmed, 3 reversed, 3 modified and 5 returned for re-investigation.

4. The total sum drawn for meeting the expenses of the Division during the year has been Company's Rupces 29,280-13-1, as particularised in Statement No. 4, herewith annexed.

5. I have already under the heads of boundary disputes and *demarcations* expressed an opinion regarding Mr. Davey. In the management of the former, he has not been successful, in the latter his out-turn of work is exceedingly creditable. He is however a very willing Officer, and I trust that the returns of next year will show a marked improvement in the general management of his Office details. It is but fair to state that the unavoidable want of elephants during the whole season of 1859-60, combined with the absence of any other ready means of locomotion, operated most prejudicially against an active supervision on his part over the doings of his Ameens and Peshkars. This difficulty I hope to obviate during the ensuing cold season, as, I have by a visit to Dacca been able to secure 5 elephants from the Government Depôt at that place. I would however suggest the immediate transfer to this Division of such elephants as are attached to the 4th Division, the field work of which has lately been brought to a termination.

6. In conclusion, I must bring to the notice of the Board, the great disadvantages I have labored under by not having been able to make proper preliminary arrangements

for the management of field operations in this Division. Barely 3 months elapsed between my arrival at Coomillah and the close of the field season, I found it quite impossible to bring my own newly-organized establishment and much less that of Mr. Davey into thorough working order in so short a lapse of time. I therefore trust that the Board, in reviewing this year's operations will make due allowances for the unfavorable circumstances under which they have been carried on by me.

I have the honor to be,

SIR,

Your most obedient Servant,

J. F. BROWNE,

*Offg. Superintendent of Survey,*  
2ND DIVISION.

P. S.—The Statements are forwarded under a separate cover, as they will otherwise be too heavy for the post.

J. F. BROWNE.

No. 56.

FROM

H. J. REYNOLDS, Esq.,

*Superintendent of Survey, 3rd Division,*

TO

THE SECRETARY TO THE BOARD OF REVENUE, L. P.,

FORT WILLIAM.

*Dated DACCA, the 30th November 1860.*

SIR,

I HAVE the honor to submit the General Returns of the 3rd or Eastern Division of survey, for the year ending 30th September 1860.

2. The annexed Memorandum presents a synopsis of the amount and nature of the work performed by the several Officers of the Division during the period under review :

| NAME OF OFFICERS.  | Number of Hul-<br>kaas. | Maps made over<br>to the Rev.<br>Surveyor. | Boundary dis-<br>putes decided. | Enquiries regard-<br>ing excess and<br>missing lands. | Miscellaneous<br>cases decided. | Appeals. | Duplicate copy<br>of Maps. | Registers Mou-<br>zalwar and Me-<br>halwar com-<br>pleted. |
|--|-------------------------|--|---------------------------------|---|---------------------------------|----------|----------------------------|--|
| Mr. W. C. Spencer, Superintendent of<br>Survey, from 1st October to 3rd De-<br>cember 1859, ...                                | .....                   | 2304                                       | .....                           | .....   | .....                           | 2        | .....                      | .....  |
| Mr. H. J. Reynolds, Assistant Super-<br>intendent in charge, 3rd division,<br>from 4th December 1859 to 2nd<br>April 1860, ... | .....                   | 18   | .....                           | .....   | 1                               | 16       | .....                      | .....  |
| Mr. G. G. Morris, Superintendent of<br>Survey, 3rd Division, from 3rd April<br>to 1st July 1860, ...                           | .....                   | .....                                      | .....                           | 154   | 23                              | 4        | .....                      | .....  |
| Mr. H. J. Reynolds, Superintend-<br>ent of Survey, 3rd Division, from<br>2nd July to 30th September 1860,                      | .....                   | .....                                      | .....                           | 697   | 42                              | 47       | .....                      | 5  |
| Mr. H. J. Reynolds, Assistant Super-<br>intendent, from 1st October 1859 to<br>1st July 1860, ...                              | 829                     | .....                                      | 79                              | 94  | 313                             | ...      | 1243                       | .....  |
| Mr. F. Jones, Assistant Superintend-<br>ent of survey, from 4th to 16th Sep-<br>tember 1860, ...                               | .....                   | .....                                      | .....                           | .....   | .....                           | ...      | .....                      | .....  |
| Baboo Tarucknauth Ghose, Uncoven-<br>anted Deputy Collector, from 22nd<br>May to 30th September 1860, ...                      | .....                   | .....                                      | 1                               | 691   | 462                             | ...      | .....                      | .....  |
| Baboo Brojosoonder Mitter, Uncoven-<br>anted Deputy Collector, from 1st<br>Oct. 1859 to 30th September 1860,                   | 686                     | .....                                      | 31                              | 125   | 95                              | ...      | 1182                       | .....  |
| Baboo Sateowry Roy, Uncovenanted<br>Deputy Collector, from 1st October<br>1859 to 30th September 1860, ...                     | 611                     | .....                                      | 43                              | 580   | 151                             | ...      | 911                        | .....  |
| Baboo Joychunder Mojomdar Un-<br>covenanted Deputy Collector from 1st<br>October 1859 to 23rd January 1860,                    | .....                   | .....                                      | .....                           | 26  | 41                              | ...      | .....                      | .....  |
|  | 2126                    | 2322                                       | 154                             | 2907  | 1128                            | 69       | 3336                       | 5  |

3. The demarcations of the Dacca District having been brought to a close in the year 1858-59, the then Superintendent of Survey, Mr. Spencer, entrusted Deputy Collector, Baboo Joychunder Mojomdar with the duty of compiling the Dacca Registers. The Deputy Collector applied himself to the task with zeal and diligence, but, from

want of experience in registry work, his efforts were in many respects ill-directed, and the enquiries he made have since been found to be incomplete. To such an extent has this been the case, that the registry work may be said to have been commenced *de novo* by Mr. Morris when he joined the Division as Superintendent. I do not think any blame can attach to the Deputy Collector, who did all which energy and industry could do; if his efforts were not successful, it is to be attributed to his want of familiarity with that branch of survey duties. Baboo Joychunder Mojoomdar died suddenly on the 23rd January 1860, while engaged on public duty in the interior of the Dacca District. I was then in temporary charge of the Division, and it appeared to me of importance to supply the Deputy Collector's place without delay. Not only were there numerous enquiries connected with the Dacca registry work to be made in the field, but it was necessary to take measures to complete the renewal of the boundary marks for the Revenue Surveyor, and to comply with any requisitions that Officer might make. I therefore deputed Baboo Satcowry Roy from the Sylhet District to take up these duties, which he performed in a satisfactory manner during the short time he was in charge of them. Mr. Morris joined his appointment as Superintendent on the 3rd of April and took the registry work into his own hands, Baboo Satcowry Roy returning to his demarcation duties in Sylhet at the end of that month. Baboo Tarucknath Ghose joined the Division on May 22nd, and, since that date, the registry work has been carried on in his Office and in that of the Superintendent himself.

4. These numerous changes of Officers have unavoidably interfered with the uniform progress of the work. The incomplete character of the investigations made has also rendered it necessary to strike out from the returns the work entered as finished in the last Annual Report. The orders passed in cases relating to excess and missing lands have been subjected to a thorough revision; measures have been taken in concert with the Collector, for procuring corrected copies of the Collectorate lists—the corrections being in this instance authenticated by the Revenue authorities, instead of being made (as was the case in the former revision) on the authority of Ameens belonging to the Survey. No doubt much remains to be done, but the progress made during the year may (I think) be considered as satisfactory; not only because some registers have actually been completed, but because a systematic mode of procedure has been laid down by Mr. Morris, by a steady adherence to which I believe all difficulties will eventually be overcome, and the work entered as completed will stand in no need of future correction and revision.

5. The mehalwar and mouzahwar Registers of 5 pergunnahs have been completed in Bengali and English during the year. These are in every respect ready for transmission to the Collector, and will be made over to him as soon as they have been bound. Of the three Registers entered as half finished in Bengali, two have since been finished in Bengali, and the English Registers of these will be completed during the current quarter. Further progress in the registry work is, for the present, delayed by the non-receipt of areas from the Revenue Surveyor; but the Towjee Nikass has been completed in 14 pergunnahs, and these are ready for registry as soon as the areas can be obtained. A part of the Dacca District, to the south of the Kertinassa river, was surveyed last season by a professional party of the 4th Division, and the areas of the estates comprised in that circuit have not yet been received.

6. Notwithstanding the more favorable aspect of the Dacca work, as compared with that exhibited in previous returns. I should convey a false impression if I were to

lead the Board to suppose that the difficulties which have hitherto obstructed our progress have been finally surmounted. This is far from being the case. The revised lists of 112 pergunnahs have still to be received from the Collectorate; and it will be a work of much time and trouble to trace out the large number of mehals which have been altogether unaccounted for by the survey. Another difficulty (which has been the subject of previous correspondence) lies in the fact, that about 450 mehals are entered in the Collectorate books, as belonging to "no pergunnah;" and it has not yet been determined whether these mehals ought to be separately registered, or entered under the pergunnahs in which they are locally situated. It is evident that if the latter course be determined upon, it may involve extensive alterations in the work which has already been completed; not to say that the great intermixture of pergunnahs in the Dacca District will render it a matter of difficulty to fix any estate locally under a single pergunnah; and I think it would be a far preferable plan to register these mehals separately under some specific name. The question has hitherto remained in abeyance to allow the Collector to examine his records for the purpose of determining (if possible) to what pergunnahs these mehals belong; but that Officer has lately informed me that the records of his Office do not supply any further information upon this subject. I therefore propose, if the Board sanction the arrangement, to enter these mehals by themselves in a separate Register. There will, however, be some inconvenience and anomaly in having a register under the title of "No Pergunnah;" and I would suggest to the Board that it would be desirable to direct the Collector to give a specific pergunnah name to these Estates collectively.

7. It has lately come to my knowledge that a good deal of land, fiscally belonging to the Dacca District, is locally situated in zillah Tipperah, and has not yet come under survey. When these lands are surveyed, it is probable that a good many of the missing mehals of the Dacca district will be accounted for; but the registry of the pergunnahs to which the lands in question belong will be unavoidably delayed till the survey of Tipperah is further advanced.

8. The field parties of the Division broke ground in the Sylhet District about the end of the first week of December 1859. Operations were commenced at the south-west extremity of the District, in accordance with the requirements of the Revenue Surveyor, who desired to maintain a connection with the Mymensing work. It was anticipated from the first that the large number of mehals in Sylhet, and the minute sub-division of the lands, would render the survey of the District a tedious and embarrassing task; and during the earlier part of the field season these anticipations seemed likely to be completely fulfilled. The mehalwarree demarcations were so numerous and intricate, that the progress made was extremely slow; and it appeared probable that the utmost efforts of the field parties would be insufficient to secure the necessary amount of area. Under these circumstances, the Board, by their letter No. 147, dated the 6th March last, were pleased to sanction the demarcation of the outer boundaries of villages only, and, under this permission, the mehalwarree measurement of 478 villago hulkas have been left for completion during the approaching field season, the external boundary alone being demarcated. Even with the relief thus afforded, and notwithstanding the fact that in the circuit taken up in the later months of the field season, the mehals were found to be comparatively few, it will be seen by the returns that no less than 84,648 mehalwarree

the whole number of 2,126 village hulkas taken in hand during the season, only 367 hulkas were found unconnected with more than one estate. So large an amount of internal plotting is, I believe, almost without precedent in the survey: and I trust the Board will be of opinion that the results obtained are creditable to the energy and diligence of the Officers engaged in the demarcation.

9. The area prepared for the Revenue Surveyor contains 4,280 villages and kismuts comprised in 2,126 hulkas, and is estimated at 1,492 square miles; but though I have not been able to detect any error in this calculation, I cannot but think it will be found to be somewhat in excess of the truth; and I have observed that the professional estimates generally come short of the estimated areas of this Office. Making, however, the largest possible allowance for erroneous calculation, the prepared area cannot be short of 1,350 square miles; and this amount will afford full work for the Revenue Surveyor, and probably will leave a margin to be carried to the credit of the ensuing season's work.

10. Only 154 boundary dispute cases were brought upon the file during the year, and the whole number were disposed of; 22 of them having been settled by arbitration or razcenamah, 3 being struck off, and the rest decided upon their merits. When it is remembered that in the year 1858-59, the boundary dispute cases in this Division amounted to 1,959, and in 1857-58 to no less than 6,020, the returns of the present year will, I hope, be considered satisfactory. I am only paying a deserved tribute to the memory of Mr. Spencer, when I record my opinion that this gratifying result is, in a great measure, attributable to the improved system which he introduced into the Division, and the energy with which he addressed himself to the duty of reducing the number of cases. The larger number of cases on the file of the Assistant Superintendent is owing to the fact, that during the three months of Baboo Satcowry Roy's absence at Dacca, two of his Peshkars and their Ameens were attached to the Assistant Superintendent's establishment. The pending enquiries in izad and adum-ul-nishan cases have been almost entirely disposed of, a total remaining of only 39 cases out of 2,406 brought on the file during the year. The pending cases are mostly izad enquiries, the decision of which has been delayed by the necessity of a reference to the Collector. A large majority of the cases, entered under this head, belong to the Dacca District. The mehals in Sylhet being so numerous, it might have been expected that a large number of adum-ul-nishan cases would have to be instituted; but this has not hitherto proved to be the case. The lands have almost invariably been measured, in the first instance, in accordance with the Collectorate lists; and even where they have not been so measured, yet, on a subsequent inquiry, they have almost always been accounted for and traced out. On the file of appeals, 25 are pending out of 94 brought on the file during the year; these were mostly instituted at the end of the year, and they will all be cleared off before the commencement of field operations. The appeals decided do not show so satisfactory a result as I could wish, the orders of the Deputy Collectors having been reversed in 3 instances out of 17 in boundary dispute cases, and in 9 instances out of 52 in miscellaneous cases.

11. I am glad to be able to report that satisfactory progress has been made with the Towjee Nikass of the pergunnahs which have been measured in the Sylhet District. The duty of carrying on this work simultaneously with the demarcations, appears to me to be second to none in importance; as the successful compilation of the Registers

depends entirely upon the accuracy and completeness with which the Towjee Nikass work has been executed. The Towjee Nikass statements of 20 pergunnahs of Sylhet were completed and filed in this Office before the end of the survey year. These Pergunnahs are, in every respect, ready for registry as soon as the areas can be obtained from the Revenue Surveyor; but these areas cannot of course, be received till the end of the ensuing field season. From the results of the last season's work, I think there is an encouraging prospect of the satisfactory completion of the Sylhet Registers; and although the task will unavoidably be one of great labor and magnitude, yet I do not anticipate that its progress will be obstructed by the difficulties and mistakes which have so long retarded the progress of the Registers of the Dacca District. The success which has thus far attended our exertions in this department of the work is, attributable partly to the character of the country—the Sylhet pergunnahs being mostly compact and included in well-defined boundaries—and partly to the completeness of the lists supplied by the Collector. Considering the very large number of mehals in Sylhet, the Collectorate lists are surprisingly accurate; the few errors which we have detected being mostly nothing more than mistakes of transcription. The only exception to this is in the papers relating to the khass-mehal lands. In those parts of the District which have been traversed, a large proportion of the Government estates appear to consist of uncultivated lands, or of lands which were overgrown with jungle at the time when they were measured. Consequently the Collectorate measurements of these lands seem to have been very carelessly conducted, and in some instances, the khass chittahs were found to be quite incompatible with the actual features of the ground. I was, however, careful to require the attendance of the Putwaree to point out the Government lands in all cases in which there was any doubt as to the proper boundary, and, I have reason to believe that the estates in question have been correctly demarcated, though the unsatisfactory character of the Collectorate records, relating to these lands, caused some inconvenience and led to not a few disputes.

12. The demarcation of the boundary line between the Sylhet District and independent Tipperah, has led to two disputes which have not yet been finally arranged. In both instances, I have visited the disputed ground in person, and the circumstances have been fully reported for the information and orders of the Board. With regard to the dispute in pergunnah Bejora, in which I have been directed to act as arbitrator on the part of Government, I have to report that I have not yet received any information of the appointment of an arbitrator on the part of the Maharajah. It is very desirable that both these disputes should be settled as speedily as possible, as the Revenue Surveyor will take up that part of the District at an early period of the field season.

13. The expenses of the year amount to the sum of Rupees 76,686-2-2, including Rupees 1,200 expended in the purchase of two elephants. The savings, in hand, amount to Rupees 551-8-8. The expense incurred is somewhat in advance of the expenses of former years, a result owing, partly to the higher salaries drawn during the past year by the Officers of the Division, and partly to the increase which has been made in the field establishment. This estimate of expenses does not include the sum disbursed at Mymensing in connection with the registry work of that District. A separate statement of this shall be forwarded.

14. The arrangements made for the approaching field season are as follows:—Baboo Tarucknauth Ghose will remain at Dacca, and carry on the enquiries connected with the

out missing lands; and the Deputy Collector will also have to decide some cases which have been returned for re-investigation from the Commissioner's Office. To Baboo Satcowry Roy has been assigned a circuit estimated to contain about 450 square miles, and extending on the west to the boundary of Mymensing, and on the north to the northern boundary of the Sylhet District. I am informed that some trouble may be anticipated in laying down the northern boundary of the District, and I have therefore written to the Collector to furnish me with any information which his records may contain on the subject. Baboo Satcowry Roy will also have to complete the mehalwaree details of 92 villages of his last season's chuck, of which the outer boundaries alone have been laid down. To the east of Baboo Satcowry's chuck, a District of about 400 square miles has been made over to the Assistant Superintendent, Mr. Jones. On being joined by Baboo Ramgovind Roy, I shall make arrangements to employ him upon a circuit still farther to the east. Baboo Brojosoonder Mitter has been entrusted with the duty of completing the mehalwaree measurements of the villages measured by his Ameens and by those of the Assistant Superintendent during the past season. This will be a work requiring great diligence and good management, as the mehals in that part of the District are numerous, and, it will probably be necessary to resort, in a good many instances, to khushreh measurement. I have therefore thought it best to select my most experienced Deputy Collector for this duty. The distribution of the Peshkars and Ameens is of course only provisional, as Baboo Ramgovind has not yet joined the Division, and, on his arrival, it will be necessary to provide him with a field establishment. I have arranged, that for the present, three Peshkars and 30 Ameens shall remain at Dacca under Baboo Tarucknath Ghose; that an equal number shall be employed under the Assistant Superintendent, and that 4 Peshkars and 40 Ameens shall be employed in each of the establishments of the two Deputy Collectors in Sylhet. When Baboo Ramgovind Roy joins me, a Peshkar and 10 Ameens will be detached from Dacca for employment under him, and 2 Peshkars and 20 Ameens from the other two Deputy Collectors' establishments. Each field party in Sylhet will then consist of 3 Peshkars and 30 Ameens, and 2 Peshkars and 20 Ameens will remain at Dacca to complete the registry work. I do not think that a demarcation Officer can efficiently supervise (at least for any length of time), a larger party than 3 Peshkars and 30 Ameens; and I therefore trust that the Board will recommend that Baboo Ramgovind Roy be transferred to this Division at as early a date as possible. Besides the duties indicated above, each demarcation Officer in Sylhet will have to renew the boundary marks of his last season's circuit for the Revenue Surveyor; and I anticipate that this task will prove an extremely arduous one. In the greater part of the District prepared for survey, it is probable that not a single boundary mark, erected last season, will have lasted through the rains, as the ground is inundated to a depth of several feet. Before leaving the mofussil in June last, I was careful to issue notices to the zemindars, reminding them that they had undertaken the duty of preserving the field marks, and that they were liable to punishment if they failed to perform their engagement; but, notwithstanding this, it is probable that the Ameens will have to replace the greater portion of the field marks. The Board are perhaps not aware to how great an extent this interferes with the regular work. No fewer than 38 Ameens have, this year, been deputed to Sylhet to renew the field marks; and it is not likely their work will be completed before the end of January. The Division is thus virtually deprived of the services of this large number of men during two months, at least of the working season. Besides this, it is usual to attach an Ameen throughout the field season to each of the camps of the Revenue Surveyor's subordinates; and additional Ameens have occasionally to be deputed when a doubtful boundary is met with.



15. The conduct of the subordinate Officers of the Division, during the time that I have been in charge, has met with my entire approbation. The Assistant Superintendent Mr. Jones, was prevented by ill-health from gaining any acquaintance with survey duties, and his Office has practically been in my charge throughout the whole year. Baboo Tarucknath Ghose only joined the Division at the end of May last, but he has shewn himself deserving of the high character which he had previously borne in the 4th Division. He is thoroughly familiar with his duties, as well as energetic and industrious, and his acquaintance in the registry work renders his services peculiarly valuable. Baboo Brojsoonder Mitter has given me satisfaction both in the management of his parties in the field, and by his successful preparation of the Towjee Nikass of the pergunnahs within his circuit. The small number of boundary disputes on the file of this Deputy Collector is also creditable to him, as, during three months of the field season he had the supervision, in addition to his own field party, of a Peshkar and 10 Ameens from Baboo Satcowry Roy's establishment. Baboo Satcowry Roy has worked very well throughout the year, and I have reason to be satisfied with the quality as well as the quantity of his out-turn. His District was in some respects an easier one than those assigned to the other Officers, but it will be seen by the returns that he has completed a large area, and he also decided a large number of cases connected with the Dacca registry work. It should, however, be explained, that the area completed by this Deputy Collector in Sylhet includes the villages measured by the Ameens who were attached (during the absence of the Deputy Collector at Dacca) to the Assistant Superintendent's establishment. Baboo Satcowry Roy was recommended for promotion by the Board in their last general report upon the land Revenue, and I should be glad to learn that this recommendation had been effective. The ministerial Officers of my own establishment have been diligent in the performance of their duties, and in particular I have had reason to be satisfied with the conduct of Bhogowanchunder Sein, Serishtadar. If the Board should think fit to recommend him for appointment as a Deputy Collector, I believe he would fill the post with credit.

16. I regret that the submission of this Report should have been so long delayed. I had hoped to have sent it in by the 1st of November, but a severe attack of illness rendered me unable to do so.

I have the honor to be,

SIR,

Your most obedient Servant.

H. J. REYNOLDS,

*Superintendent of Survey, 3rd Division.*

P. S.—The Statements are forwarded under a separate cover, as they will otherwise be too heavy for the Post.

H. J. R.

*Supdt. of Survey.*

No. 256.

FROM THE SUPERINTENDENT OF SURVEY, 4TH DIVISION,  
TO THE SECRETARY TO THE BOARD OF REVENUE, L. P.,

Dated Bhowanipore, 1st November 1860.

SIR,

I HAVE the honor herewith to submit the General Returns of work performed in the 4th Revenue Survey Division during the year 1859-60, ending 30th September last.

2. The following Statement indicates the nature and extent of the work performed by each Officer attached to the Division during the period above mentioned :

| NAMES and DESIGNATION OF OFFICERS.  | Hulkas demarcated. | Boundary disputes decided. | Inquiries regarding Izad and Adum-ul-nishan lands. | Miscellaneous cases decided. | Appeal cases decided. | Duplicate copies of Maps. | Register Mehalwar and Moutzahwar disposed of. |
|---|--------------------|----------------------------|--|------------------------------|-----------------------|---------------------------|---|
| Mr. G. G. Morris, Supdt. from 1st Oct. 1859 to 20th March 1860 ... }                  | ... ..             | .....                      | 62   | 131                          | 29                    | .....                     | 2   |
| Mr. W. J. Money, Supdt. from 21st March 1860, ... }                                   | .....              | .....                      | 52   | 808                          | 100                   | .....                     | 41  |
| Mr. R. Warrand, Asst. to Supdt. ...   | 205                | 18                         | 183  | 345                          | .....                 | 385                       | 1   |
| Baboo Tarucknath Ghose, Deputy Collector, from Oct. 1859 to 1st May 1860, ... }       | 806                | 23                         | 118  | 834                          | .....                 | .....                     | 3   |
| Baboo Essenchunder Dutt, Deputy Collr. from 6th January 1860 ... }                    | .....              | 57                         | 170  | 95                           | .....                 | .....                     | 2   |
| Moulvee Ahsan Ahmed, Depy. Collr.,  | 587                | 84                         | 260  | 1180                         | .....                 | 2139                      | 0   |
| Mr. H. Metcalfe, Depy. Collr., from 1st Oct. 1859 to 11th March 1860, }               | 266                | 10                         | 0  | 75                           | .....                 | .....                     | 0   |
| Baboo Joychunder Goohoo, Deputy Collr., from 12th March to 15th September 1860, ... } | 253                | 45                         | 3  | 335                          | .....                 | 607                       | 0   |

3. Field operations commenced about the middle of December, the strength of the Division consisting of 13 Peshkars and 130 Ameens who were distributed as follows. To Mr. Assistant Superintendent Warrand was assigned a circuit which included the sudder station of Burrisaul, which he demarcated with a staff of 2 Peshkars and 20 Ameens. Deputy Collector Tarucknath Ghose, with a staff of 4 Peshkars and 40 Ameens was entrusted with the demarcation of pergunnahs Selimabad and Buzurghmedpore on the left bank of the Balishur river. Moulvee Ahsan Ahmed with 4 Peshkars and 35 Ameens took up two large pergunnahs on the right bank of the Megna (*i. e.*) Utor Shahabazpore and Tappch Nazirpore. To Mr. Metcalfe, and to Deputy Collector, Joychunder Goohoo, who subsequently relieved Mr. Metcalfe, a number of jajeera churs lying to the south of the District were made over for demarcation, a staff of 3 Peshkars and 30 Ameens being placed at their disposal. Five Ameens were employed under Deputy Collector Issenchunder Dutt, in the District of Jessore on investigation connected with izad and adum-ul-nishan lands.

4. Mr. Assistant Superintendent Warrand demarcated 228 villages comprised in 205 hulkas, of which 198 required mehalwarree measurement, containing within them 10,847 mehalwarree chucks.

5. Deputy Collector, Tarucknath Ghose, completed the demarcation of 833 villages comprised within 806 hulkas, of which 471 were measured mehalwarree, containing within them 10,189 chucks.

6. Moulvee Ahsan Ahmed completed the demarcation of 662 villages in 587 hulkas, 345 of which required mehalwarree measurement, in 295 hulkas containing 15,159 chucks.

7. Mr. H. H. Metcalfe, demarcated 273 villages in 266 hulkas, of which 75 villages in 73 hulkas were measured mehalwarree, containing 655 chucks.

8. Baboo Joy Chunder Goohoo, who succeeded Mr. Metcalfe, completed 255 villages in 253 hulkas, of which 32 were measured mehalwarree containing 297 chucks.

9. The result of the season's work is that, with the exception of two churs, which owing to their submersion under water were inaccessible, the demarcation of the entire portion of the District of Backergunge which remained incompleated last season has been finished. The demarcation has been effected of an area approximately estimated at 2,000 square miles containing 2,251 villages comprised within 2,117 Hulkas. Mehalwarree measurement was necessary in 1,121 villages containing 37,000 chucks. Khusreh measurement was only resorted to in 4 villages comprised within 2 hulkas. That so large an area should have been completed, is owing chiefly to the zeal and activity of the Officers who supervised the demarcations, and, in some degree, to the fact that fewer boundary disputes were instituted than is generally the case. When the natural obstacles which were met with are taken into consideration—the operations having been carried on in a country intersected with jheels, khalls, and water courses—I think the Board will allow that much credit is due to these Officers for surmounting the difficulties they had to encounter.

10. In proportion to the area demarcated, the number of boundary disputes instituted does not appear to be large. I attribute this however, in some measure, to the circumstance of large estates being held under one proprietorship. Mr. Warrand met with some factious opposition to the survey proceedings in a certain portion of his circuit, but the difficulty was energetically overcome, and he evinced great tact and prudence in his mode of dealing with it. Very few appeals were preferred from the orders of Deputy Collector, Tarucknath Ghose, and I consider the fact very creditable to that pains-taking Officer : 129 appeals were preferred to the Superintendent ; the orders, of the Deputy Collectors were confirmed in 104 and reversed in 8 instances, and modified in one—16 cases were returned for revision.

11. All the maps of the season's work with the documents appertaining to them have been made over to the Revenue Surveyor.

12. Knowing how anxious the Board were to expedite the preparation of the Registers of Jessore, it has been my constant endeavour, since I joined the Division in

March last, to push them on as quickly as possible; and I have now to report the completion, within the year, of 43 Registers of that District, and of 16 of the Districts of Furreedpore and Pubna. The Registers of 6 more Jessore pergunnahs are under examination as also 3 of Pubna prepared in the Office of Deputy Collector, Issenchunder Dutt. Registers of 6 pergunnahs of Fureedpoor prepared in the Superintendent's Office, will be forwarded to the Collector of that District during the present quarter. An impetus has been given to this particular kind of work, and I think that under the arrangements, which have received the Board's sanction, it may fairly be expected that, before the close of the present survey year, much will have been accomplished.

13. As this Division, agreeably to the orders of the Board, is to be employed for some time to come exclusively on registry work, I submitted, on the 9th ultimo, a detailed plan of operations for the Board's approval. This plan which has been sanctioned by them, may be said to have provided for the performance of two distinct branches of work, the one the preparation of Registers, the other, the prosecution of enquiries in connection with izad and adum-ul-nishan lands, but, on the satisfactory determination of the latter depends, to a great extent, the accuracy of the Registers. The number of these enquiries in the Districts of Jessore and Furreedpoor will be very large, and the expence attending the prosecution of them proportionately great. It is on this account that I have recommended the retention of so large an establishment in the Division. It has long been the wish of the Board, and they have impressed it on the Superintendents of the different Divisions, that enquiries, in connection with izad and adum-ul-nishan cases, should be carried on *pari passu* with the demarcations. Theoretically there appears to be no reason why demarcation parties should not be furnished with all necessary information by proprietors or their Karpadajs at the time of Thak, and that, being so furnished, missing lands should be traced and izads accounted for; but practically so many difficulties have been found to exist, that the settlement of these enquiries has always been unavoidably postponed. As the subject is important, I purpose briefly to recapitulate some of the causes which combine to prevent a concurrent determination of such cases with the Thak proceedings. Generally speaking, in every mehal there will be one adum-ul-nishan case, embracing within it enquiries relating to the several mouzahs of which the mehal is composed. The lands of an estate in nine cases out of ten, are not situated within one pergunnah alone, but are outlying and interspersed all over the District. A Zemindar's Karpadaj is rarely in a position to furnish information regarding the lands of more than two or three villages of an estate. In a large estate therefore, unless the combined statements of the agents of the several hundreds of villages comprised within the estate can be obtained, it cannot be ascertained whether missing lands absolutely do not exist or are elsewhere situated, and to obtain these several statements is (within a reasonable period), next to impossible. Another cause of difficulty arises in many instances from the unwillingness of the proprietor to supply the information required. In the Towjje he may be the recorded proprietor of 50 villages whilst the actual holder of only 20, the residue may have become gang shikart, or he may have become dispossessed. It is not his interest however to avow his dispossession; the facilities and opportunities existing in the mofussil for an arbitrary acquirement of land are great, and, an admission on the part of a zemindar that he had no proprietorship in certain villages, would debar him from hereafter illicitly obtaining possession of lands within them, as the fact of such admission would be seized upon with avidity by his opponents and brought up against him in the Civil Court. In the great majority of instances, it is

not until the enquiries become pressing, and fine is threatened, that the zemindar comes forward and volunteers his statement; again, delay is very frequently caused by the inability of a proprietor to point out missing lands arising from sheer ignorance of their locality. He asks for time, and states that it will be necessary for him to proceed in person to the village; subsequently a kyfeut is returned to the effect, that although in the Collector's Towjee he is the recorded proprietor of ten villages, he is in reality the possessor of only one bearing ten different names.

It is not until the entire District has been demarcated, the jumma khuruch of the several pergunnahs comprised within it has been prepared, and the circuits and hulka numbers of the several demarcation Officers have been compared, that any satisfactory result can be obtained. It is then found that lands supposed to be adum-ul-nishan in one village were demarcated as izad in another and *vice versa*. It is of the highest importance that the Ameens should obtain all the information possible while they are in the field. But I respectfully submit to the Board, that in my humble opinion nothing would tend more to an inaccurate preparation of the registers, and consequently entail more trouble and expense hereafter, than a hasty prosecution of these enquiries, and an endeavour at any price to make the settlement of them coeval with the demarcation of the villages to which they relate. For even afterwards, when Ameens are specially deputed to these cases and their attention is directed solely to them, instead of being divided, as it is at the time of the regular demarcations, the investigations are most tedious and intricate; much time is taken up in their efforts to trace the lands, and when they are traced, it is very difficult to reconcile their position with that of other lands exhibited on our maps.

14. The Board are aware of the grounds on which I recommended a reconsideration of their orders regarding the pergunnah of Selemabad. The sanction which they have accorded to the arrangement submitted by me for their approval, will remove the hardships under which some of the proprietors of that pergunnah labored. It will only now be necessary to depute a Deputy Collector, for a short time, for the determination of the disputes re-brought upon the file, and for the supervision of the internal demarcation of such portion of the pergunnah as, under the orders which the Board issued in the first instance, was arrested.

15. The total sum drawn for meeting the expences of the Division during the year has been Co.'s Rs. 81,975,-0-0. The savings at credit of the Division amounted at the end of the year to Rs. 2,407-4-4, of which Rs. 446-3-6 are field establishment savings, and Rs. 1,961,-0-10. the fund of fees and costs of suits—some portion of the latter sum however was carried, when deposited, to the profit and loss account of the Backergunge Collectorate.

16. It now only remains for me to record my opinion as to the merits and capabilities of the officers subordinate to me. Mr. Assistant Superintendent Warrant, has been for some time attached to this Division. He has gained experience in all branches of the Department. I consider him to possess very good administrative ability. He exercises a careful supervision over those employed under him, and takes trouble to make himself acquainted with their character and capabilities. I was well pleased with the manner in

Tarucknauth Ghose, so long as he remained in the Division, maintained his high character as a zealous and laborious Officer. I much regretted that the interests of the service should have rendered necessary his transfer to the 3rd Division.

Deputy Collector Issanchunder Dutt, is a survey Officer of long standing. He has been employed for some years in the preparation of the Pubna Registers which he has almost completed. The duty on which he has been engaged is not of a demonstrative nature, and possesses none of the attractions of field demarcations. But no branch of the survey work is of more importance than that in connection with the Registers. It requires the utmost care and the greatest patience, and Deputy Collector, Issanchunder Dutt has evinced both these in an eminent degree. I beg to bring this Officer very favorably to the notice of the Board, and have much pleasure in recommending him for promotion to a higher grade in the list of subordinate Executive Officers.

Of Moulvie Ahsan Ahmed, I entertain as high an opinion as my predecessors. The orders of the Board preclude me from recommending more than one Officer of the same grade for promotion, but I have little doubt, that in the new sphere of duties in which he will be employed, Moulvie Ahsan Ahmed will sustain the good name he has earned in the survey Department as a zealous and hard-working Officer. Mr. Metcalfe worked hard so long as he remained in the Department. Deputy Collector, Joychunder Goohoo, went to work with a will on joining the Department, and continued until his transfer to the regular line to give me every satisfaction; although he is no longer connected with the Department, I venture to hope that the promotion for which I now beg to recommend him, may follow him to the Sub-division of which he has been placed in charge. I should be glad to think that any recommendation of mine could obtain advancement for the more deserving of the ministerial Officers of the Superintendent's office. Both in the field season and during the recess, their work is of an arduous nature, and no body of men could have labored more assiduously, than they have, since I joined the Division.

I have the honor to be,

SIR,

Your most obedient Servant,

W. J. MONEY,

*Supdt. Revenue Survey, 4th Division.*

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**No. 1566.**

FROM

CAPTAIN E. T. DALTON,  
*Commissioner of Chota Nagpore,*

TO

H. L. DAMPIER, Esq.,  
*Offg. Secy. to the Board of Revenue, L. P.*

FORT WILLIAM.

*Dated Chota-Nagpore, the 3rd November 1860.*

Revenue.

SIR,

WITH reference to your letter No. 554 of the 5th ultimo, I do myself the honor to submit to the Board of Revenue the Report\* of the Superintendent of Survey in this Division, for the year ending

\* No. 850, dated 15th Ultimo.

30th September last.

2. With the moderate establishment of two Peshkars and 12 Ameens, a very satisfactory amount of work has been done by the Superintendent in the demarcation branch of his survey. The work now appears to be well in advance of the professional survey, as, with the exception of some disputed boundaries, the whole of the Burhee Sub-Division which includes Khurruckdiha and three pergunnahs of the great Ramgurh estate is ready, and is as much as it is expected that the professional establishment will be able to complete during the approaching field season.

3. In addition to the above, considerable progress has been made in demarcation of Palamow: 14 tuppahs or 790 villages having been completed. It is expected that during the present season, the demarcation work in Palamow will be completed.

4. The total area demarcated is estimated at 2,500—the cost per square mile of the work amounts to Rupees 2-7-11 only. Under the system adopted by Captain Thompson, the full statistical Registers are not prepared till the completion of the professional survey. During the season the Registers of 737 villages have been completed, and copies prepared for the Board and District Offices. These Registers contain a vast amount of useful statistical information, from which the wealth and resources of every village can be computed.

5. During the progress of the survey, a great number of troublesome boundary disputes, some of old standing, some new, arising out of the necessity now first felt of determining boundaries in uninhabited tracts, were decided by Captain Thompson. From the earliest time of which we have record, Khurruckdiha boundary disputes afforded endless work to the Courts, and I consider it is satisfactory, that out of 241 decisions by the Superintendent in such cases, only 35 should have been appealed.

6. Judging from a careful consideration of the appealed cases, I consider that Captain Thompson investigates such disputes with great patience, and generally evinces sound judgment in deciding them.

7. Captain Thompson, I am happy to find, reports favorably of the cordial assistance he continues to receive from the District Officers, and, in regard to his own services, I consider he is highly deserving of the commendation of the Board and Government.

I have the honor to be,

SIR,

Your most obedient Servant,

E. T. DALTON,

*Commissioner of Chota Nagpore.*

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**No. 350.**

FROM

CAPTAIN G. H. THOMPSON,

*Superintendent Revenue Survey,*

CHOTA NAGPORE DIVISION,

TO

THE COMMISSIONER OF REVENUE,

CHOTA NAGPORE DIVISION,

*Dated Hazareebaugh, the 15th October 1860.*

SIR,

I HAVE the honor to forward a general Statement of civil or demarcation work performed, showing detail and total cost of the same, on the Chota Nagpore Divi-

sion Revenue Survey, for season 1859-60, or from 1st October 1859 to 30th September 1860, and beg that you will be good enough to transmit it, together with this my report on the operations, with your remarks on the same, to the Sudder Board of Revenue, Lower Provinces, at your earliest convenience.

2. The demarcation establishment consisting of 2 Peshkars and 12 Ameens, took the field on the 1st October 1859, with orders to purtâl during October, the work that had been demarcated in season 1858-59; also to make certain investigations concerning the cases of disputed boundaries that had been registered during 1858-59, but that remained for disposal, at the close of that field season. This work having been duly done, the establishment was divided into two parties for fresh work; one party consisting of 1 Peshkar and 7 Ameens for the continuation (to completion) of the work remaining to be done in Khurruckdeha, of district Hazareebaugh, and the other of 1 Peshkar and 5 Ameens to commence operations in Palâmow of District Chota Nagpore.

3. The Khurruckdeha party demarcated the estates, or portions of estates, detailed below, comprising on the whole 2,477 villages, which completes the demarcation of the Khurruckdeha illaqua, as well as that for the whole tract of country appertaining to the Hazareebaugh district, north of the Trunk Road, generally known as the "Burbie Sub-division," viz.—

|  |     |
|--|-----|
| Villages remaining for demarcation of the gaddees of Khurruckdeha named in my last annual report, ... ..   | 263 |
| Villages remaining for demarcation of the three Pergunnahs (Chaic, Bursote, and Rampore) of the Ramghur illaqua, named in my last annual report, ... | 407 |

Other gaddees of Khurruckdeha, viz.:

|                     |       |   |       |
|---------------------|-------|---|-------|
| Bêrecah, ... ..     | 54    | Brought over, ... ..                    | 1,306 |
| Ghorinjee, ... ..   | 49    | Luttâkce, ... ..                        | 73    |
| Dêoree, ... ..      | 13    | ( <i>in one</i> ) Bâtee, ... ..         | 11    |
| Ghôteh, ... ..      | 12    | Doomân, ... ..                          | 28    |
| Iskoh, ... ..       | 29    | Chuk Munjoh, ... ..                     | 47    |
| Jerrecah, ... ..    | 95    | Pobee, ... ..                           | 13    |
| Nowdechâ, ... ..    | 34    | Dhorêtah, ... ..                        | 33    |
| Nugpoorah, ... ..   | 7     | Khoksênbur, ... ..                      | 25    |
| Khoorchoota, ... .. | 138   | Lêdah, ... ..                           | 62    |
| Seerampore, ... ..  | 248   | Bhurkutta, ... ..                       | 47    |
| Gauḍeh, ... ..      | 108   | Pêshum, ... ..                          | 40    |
| Dêopoor, ... ..     | 62    | Nânkar and Khâlsah, villages of Dhunwâr |       |
| Palgunge, ... ..    | 357   | in the gaddees of Modurka, Nowaghur,    |       |
| Kurhurbâree, ... .. | 100   | Bungâroh Dighee and elsewhere, ...      | 496   |
| Carried over, ...   | 1,306 | Total, ... ..                           | 2,181 |

263 + 407 + 2181 = 2851; deduct for 374 scattered villages within these gaddees, that were demarcated in season 1858-59. Balance total = 2,477 demarcated in season 1859-60.



4. The Palâmow party commenced operations about the end of November, on the South-east boundary of the Pergunnah, adjoining Lohardugga, and have completed the demarcation of 14 tuppels, comprising 790 villages, as detailed below, viz. :—

|        |               |     |     |     |        |                  |          |     |
|--------|---------------|-----|-----|-----|--------|------------------|----------|-----|
| Tuppel | Tuppah,       | ... | ..  | 24  |        | Brought over,... | ...      | 321 |
| "      | Munkhêrce,    | ... | ..  | 92  | Tuppel | Dootoo,          | ...      | 63  |
| "      | Doorjâg,      | ... | ... | 34  | "      | Bâree,...        | ...      | 192 |
| "      | Bârêsâud,     | ... | ... | 13  | "      | Chichâree,       | ...      | 116 |
| "      | Khâmhee,      | ... | ... | 16  | "      | Khuppermundah,   | ...      | 52  |
| "      | Seemah,       | ... | ... | 82  | "      | Soollee-oorf,    | } ... .. | 29  |
| "      | Burkôle,      | ... | ... | 38  | "      | Odeepoor,        |          |     |
| "      | Chêtkee,      | ..  | ... | 22  | "      | Cêmoo Sunneyah,  | ...      | 17  |
|        | Carried over, | ... | ... | 321 |        | Total,           | ...      | 790 |

These tuppels all adjoin each other and enclose the tract of Palâmow country lying to the south of a line drawn from the Kunnur river, opposite to the "Hârâ Sida" hill, viâ. the Palâmow Forts, to "Rêmee" on the Toree boundary.

5. The usual "izhar" and "suppoonmah" papers which form part of the misl attached to the Thak Bust Maps, were prepared by the Peshkars and Ameens, and signed by the Zemindars for every village that was demarcated. The Thak Bust Maps for 1,050 villages that have been surveyed professionally during the season, have also been prepared.

6. I estimate the area demarcated in Khurruckdeha at 1,400 square miles, and that of Palamow at 1,100 square miles; the villages of the former Pergunnah average in size little more than half a square mile, or about 350 acres each, whilst the Palamow villages are much larger, averaging nearly one and a half square miles, or about 900 acres each. The Professional establishment will thus have ample work ready for them in Khurruckdeha for the ensuing cold season, it not having been found practicable to complete, professionally, the total area that was demarcated during season 58-59. Under arrangements that have now been made in that department, it is expected that the survey of the whole of the Burhie Sub-division will be completed during the approaching field season.

7. The Khurruckdeha work is still a little incomplete, chiefly on account of the litigious and improvident nature of the Ghâutwâl Zemindars, who are most difficult people to deal with, in every way; some of the Ameens also were careless and slow in their work, which led to the discharges and fines reported to the Board in my letter, No. 344, of 1st Instant. Every thing will be carefully completed by a couple of Ameens, aided by the Putwarees, during the ensuing cold weather.

9. The "Thakbust and Moázenah" lists, also the "Moojmillec" maps, for all the *gaddees* or *tuppehs* that have been demarcated, whether of Khurruckdeha or Palamow, have been duly prepared. A few of the Khurruckdeha lists and maps (those of 4 *gaddees*) require some slight additions or alterations to make them complete, but these will be completed as soon as the 16 cases of boundary disputes, that remain for disposal, have been got out of hand. These lists differ very materially (showing many more villages) with those that were prepared from the records of the District offices.

10. The area and statistical registers in English and Persian (of the description or form reported on last year) for 8\* *gaddees* or *estates*, have been completed during this season. The completion of these registers is dependant on the completion of the Professional survey of the *estates*; and of the 8 here reported as completed this season, 5† were partly prepared last season. The number of villages that have been thus registered this season is 737. Copies of these 8 *estate Registers*, in English, also a copy of the English Register for Pergunnah Kodurma (that was got ready last year) have been prepared for the Board's Office, and will be dispatched, direct to Calcutta, at the end of this month, when also the Registers and other civil records connected with the *estates*, that have been professionally surveyed during the season, will be made over to the District Office.

\*Doomchanch.  
Munoodhee.  
Dhurgoon.  
Khurkhar.  
Khesmee.  
Sutgawan.  
Gawan.  
Deothun.

†Doomchanch.  
Munoodhee.  
Dhurgoon.  
Khurkhar.  
Khesmee.

11. From the statement which accompanies, it will be seen that of 281 boundary disputes registered, 241 have been disposed of, leaving 40 for disposal. It will also be observed that nearly all these cases appertain to Khurruckdeha, where the *Zemindars* are very litigious. Care was taken not to recognize trifling disputes, and periods were fixed, for different localities, within which, under penalty of fine, parties were required to register their disputes, if they had any, also to state the grounds or validity of their claims. Whenever practicable, I investigated in person all such cases, on the disputed ground. When this could not be done conveniently, a *Peshkar* was deputed to the spot to roughly map the disputed ground, and take down such depositions, as to possession, &c. as the contending parties desired; also to make a careful investigation, on his own part, and to forward the whole to me, with his report, for final orders, which I invariably issued on each case after due investigation made, either in the presence of the contending parties themselves, or their *Mooktars*, or else in their absence through their own fault, as the parties were always warned, in the field, that the case would be disposed of by me 15 days after it left the *Peshkar*. Endeavour was always made, in the first instance, to settle all disputes by arbitration or by recourse to a *punchayt*, and many were so arranged.

12. Of my decisions in the Khurruckdeha cases, 35 were appealed to the Commissioner. Of these, 27 were affirmed, 3 ordered to be reinvestigated, 2 annulled, and regarding 3, I have not yet received the Commissioner's orders.

13. The total expenditure, connected with the civil or demarcation operations of the season, will be seen from the general statement to have amounted to Rs. 6,247-1-6. This may be classed under the four following heads, *viz.*—

| Demarcation Establish-<br>ment. | Travelling Allowances. | Feed of Elephants. | Cost of office building<br>debited to the Demar-<br>cation branch. |
|---------------------------------|------------------------|--------------------|--|
| Rs. 4,847 8 0                   | Rs. 625 0 0            | Rs. 274 9 6        | Rs. 500 0 0  |

The rate per square mile averages the small sum of Rs. 2-7-11, and although, for obvious reasons, this low rate cannot be compared with the higher rates of the other divisions, still I trust that it will be admitted, that a vast amount of useful work has been performed for this very small expenditure.

14. In the Junior Secretary's letter to the Government of Bengal, No. 2451, of 13th ultimo, to the Secretary to the Board of Revenue, containing His Honor the Lieutenant-Governor's opinions and remarks on the work of the Bengal survey divisions for season 1858-59, whilst the unavoidably high rates of this division in the professional Department, (which were entirely owing to the whole establishment having been on the march down from the Punjab, during two-thirds of the entire period of the field season, and then at that late season commencing on a district that had not in any way been got ready for survey) are noticed, the demarcation operations which were performed excessively cheap, and under many difficulties and much trouble, appear to have been overlooked.

15. With the exception of 1 Peshkar and 2 Ameens, whom I intend employing for the first three months, on the completion of the Khurruckdeha demarcation and records, I purpose to employ the whole of the field establishment on Palamow this season, which should be completed, in its demarcation, by next June.

16. The sanction of Government for the continued employment of the demarcation establishment, after the 1st February next, will be necessary, as the sanction contained in letter No. 487 from the Under Secretary to Government of Bengal to the Officiating Junior Secretary to the Board of Revenue, L. P., dated 19th March 1860, is only for one year, from the 1st February last. I would suggest, that, if the sanction for the employment of this establishment must be limited to any particular period, that sanction for *three* years, from the 1st February next, may now be solicited, as it will take fully that time to complete the demarcation and registers and other records for Palamow, and the Manbhoom District.

17. In conclusion, I must state that I have continued to receive cordial assistance from the District Officers of Hazareebaugh and Palamow, which has aided me much in carrying on the survey operations.

I have the honor to be,

SIR,

Your most obedient Servant,

G. H. THOMPSON, *Captain,*

*Superintendent Revenue Survey,*

CHOTA NAGPOOR DIVISION.

No. 40.

FROM

MAJOR G. VERNER,

*Commissioner of Arracan,*

TO

THE OFFG. SECRETARY TO THE BOARD OF REVENUE,

FORT WILLIAM.

Akyab, the 8th November, 1860.

SIR,

AGREEABLY to the directions contained in your letter No. 554, dated 5th ultimo, I have the honor of submitting herewith for the information of the Board of Revenue, in original, the Annual Report No. 14, dated 7th instant of Mr. O'Donel, Revenue Surveyor of the 5th or Arracan Division, showing the operations in the Civil branch, during the season 1859-60, which closed on the 30th September last, together with a Statement of non-professional expenses incurred by him during that period, and accompanied by an outline Map of portions of the Districts of Akyab and Chittagong, and trust that the Board will have reason to be satisfied with the work done during the year under review, and not consider the expenditure too great.

2. I trust the Board will agree with me in considering Mr. O'Donel entitled to great credit, for his good management of the hill tribes, residing in the neighbourhood of the upper portions of the Koladyne river, whereby he was enabled to complete the survey of that portion of the District of Akyab without interruption, and I trust that during the coming working season he will complete the survey of the Akyab District, and have commenced with that of the District of Ramreec.

I have the honor to be,

SIR,

Your most obedient Servant,

G. VERNER,

*Commissioner of Arracan.*

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No. 14.

FROM

THE REVENUE SURVEYOR, ARRACAN DIVISION,

TO

MAJOR G. VERNER,

*Commissioner of Arracan,*

*Dated Akyab, 7th November 1860.*

SIR,

I HAVE the honor to submit for the information of the Board of Revenue, the Statement of non-professional expenditure incurred for the 5th or Arracan

2. The portion of the Akyab District demarcated and surveyed, is in two detached portions, and contains 8 keokships, 1 grant and portions of 2 keokships sub-divided into 96 hulkas. The northern portion includes the mountainous country adjoining the Chittagong District from Tulukmee on the Koladyne, in latitude 21°-36' to Yandong or Blue Mountain in Latitude 22°-32' north. The southern portion includes the 3 large islands called Barongas situated to the south and east of the harbour of Akyab. The total area is 1,516,924 acres or 2,370 square miles.

3. The non-professional expenditure for the past season amounts to Rs. 12,123-9-0 and gives an average rate of Rs 5-1-10 per square mile. A comparison of the results of the past and previous season is shewn below :

| Seasons.     | Area in square miles. | No. of hulkas. | Total Cost. | Average rate per square mile. | REMARKS. |
|--------------|-----------------------|----------------|-------------|-------------------------------|----------|
| 1858-59, ... | 1504                  | 111            | 6579 10 5   | 4 5 11                        |          |
| 1859-60, ... | 2370                  | 96             | 12123 9 0   | 5 1 10                        |          |
|              | + 866                 | + 15           | + 5543 14 7 | + 0 11 11                     |          |

The savings amount to Rs. 3,591-9-7.

4. 49 Registers have been furnished to the Principal Assistant Commissioner.

5. The survey of the northern portion of the District, and the remaining portion of the frontier bordering on Chittagong, was finished in March last. A high range of hills, called Modootong, Mrancedong and Youndong, forms a natural boundary between the two Districts. Opposite Tulukmee the altitude is about 2,500 feet, further north, the altitude increases to 5,000 feet at Youndong. To the eastward of this boundary range the Koladyne river flows at distances of 10 to 16 miles. From Tulukmee northwards, and within 12 miles along the banks of the river, there are 6 villages on the right bank and four on the left bank; no other villages are met with higher up for 60 miles, the intermediate country being totally uninhabited. The Loosai Kookees reside on the west of the boundary range. The independent Shendoos occupy the tract of country to the east of the Koladyne river from the mouth of the Sulla Kheong northwards. Further north, to the 23rd parallel of north latitude, the country is occupied by independent tribes of Muncpore, Arracan and Ava; there is no recognized frontier in that direction, and it will be necessary to fix a frontier line after the survey towards the Yeomadong range is finished.

6. In 1851 Captain Tickell proceeded as far as Tulukmee, and tried to induce the Khoomee Chiefs to come in. From his published journal it appears that 4 or 5 subordinate Chiefs attended, but the heads of the most powerful clans made excuses. It was not however till the last cold season that the first attempt was made to explore the country on the upper Koladyne, occupied by fierce, wild tribes who have for years committed periodical aggressions on the inhabitants of the lower hills, and low land border villages both in the Akyab and Chittagong Districts. In April and May 1859, several dacoities

Koladyne. Many persons were killed and their wives and children carried away as slaves and sold. In December 1859, a Dacoity was committed 5 miles from my camp at Ralla. The Coolies were so alarmed that a few days after most of them deserted.

7. The Koladyne circle includes within its limits an area of 2,652 square miles. The population consists of Kheongthas, Mroos, Khoomees, and Shendoos, all distinguished from the people of the plains by peculiar usages. The Kheongthas live in 9 villages intermixed with the Khoomees far apart from each other; they number 713 souls, of these 189 are cultivators who pay 5 Rs. each annually, 1 Rupee land rent, and 4 Rupees capita- tion tax. The Mroos occupy 12 villages on the Meekheong, all within 8 miles of Koladyne thannah; they number 839 souls, of these 136 are cultivators who pay 3 Rs. each annually. Both Kheongthas and Mroos are in general quiet inoffensive people, similar to the Joomeea Mughs. Tulukmee is a Kheongtha village with thirty houses; during the day they live on land, but at night occupy large substantial floating huts moved into the middle of the stream, being afraid of the secret and sudden attacks made by their wild neighbours.

The Khoomees, the largest and most important of the hill tribes in Arracan, occupy the country on both banks of the Koladyne river from the thannah to the mouth of the Sulla Kheong. Their chief occupation apparently is agricultural industry, and they manufacture cloths, spears and gunpowder. All, or nearly all practise dacoity. They do not acknowledge the authority of any Rajah or paramount Chief, and although they respect and obey their own village Chiefs and heads of clans, each chieftain is, in some measure, under the control of the confederate chiefs. They are divided into 27 clans who occupy 104 villages and the estimated number of inhabitants is about 12,000 souls, over whom our authority has never been practically established. The spear and shield are sometimes used, but all adult males are armed with muskets kept clean and ready for use. The most powerful clans, Khoongchoo, Khoong, Anoo and Yeasing, are called Shendoos; they reside on the higher ranges distant from the river and pay no revenue: those living towards Tulukmee speak a different language from the southern Khoomees. The Keok collects annually about 608 Rupees as land rent, &c., from the Khoomees. The total amount annually collected from Kheongthas, Mroos, and Khoomees is 2,165 Rupees.

The independent Shendoos called Pochs by the Muncespoorees, occupy the lofty and distant ranges on the eastern bank of the Koladyne northwards from the mouth of the Sulla Kheong. They are held in great dread both by the Khoomees and other hill people living lower down. They speak a different language, understood only by a few of the nearest Khoomees with whom they barter cloths and other articles. Several Shendoos were slain in an attempt to levy black mail, and within the last 2 years there has been little or no intercourse between them. Being at feud with each other, no accurate information could be obtained of the population, or the precise limits of the Shendoo country.

8. My best endeavours have been directed to carry out the instructions contained in your letter No. 348, of the 12th October 1859. I was always of opinion that without kindness and conciliatory measures, there was not the slightest chance of my being able to complete the duties entrusted to me in a satisfactory manner. I availed myself of every opportunity to reconcile the people of one village with another with whom they are at feud. Rangkreec-gree and Kaffa, village Chiefs of the same clan, are the only two Khoomees now at feud with each other; this is a blood feud, and it is not likely it will ever be adjusted

till both become better men. There are no other internal feuds among the different clans of Khoomees. For the first two months of my stay in the hills, my proceedings were viewed with apprehensive jealousy by the Chiefs. Moungh Khine, chief of the clan Yeasig, who had lately committed dacoities near the thannah a few years ago, at first objected to my parties surveying near his village; but some months after, finding that all the most influential Chiefs had paid their respects to me, he offered no further resistance.

9. You are well aware that the Khoomees have always avoided any intercourse with the local authorities. Military expeditions had failed in effectually putting down their inroads, for the troops seldom penetrated a short distance from the thannah, the country being most difficult of access. Before the troops reached the villages to be attacked, the robbers received timely notice and deserted their villages, taking away their families with them. There are no paths, and the hills being covered with lofty forest, no guides, for fear of their lives, would venture to assist in making a search. We knew nothing definitely of the most distant clans who are separated by language, manners, prejudices of race, and a most difficult hilly country from the neighbouring population. One of the leading points therefore to which my attention was directed, was to induce the chiefs to meet me, "so as to ascertain from them how they propose the system of dacoity and marauding, which they all practised to a great extent, might be put down." I found it at first most difficult to induce the most powerful Chiefs to meet me, and to remove the general dread and distrust that prevailed. At the first conference, to quiet their fears, I fully explained that my intentions were peaceable, and that my object was to survey and make a map of the country. I also explained to them that dacoity would in future be promptly and severely punished, and asked them how they proposed to put a stop to the same, appealing to the oldest Chiefs who seemed to possess considerable influence over the others. Many of them indignantly denied that they were robber-chiefs, others were noisy, and put their hands to their sides to feel they had daggers to defend themselves in case of treachery. After urging all the arguments, I could think of, I broke up the conference, advising them to reconsider the subject more at leisure and to let me know the result hereafter. Some weeks after, Thambway, a Chief of one of the largest clans, offered to serve as frontier Police Sirdar: considering that our Police stationed at the thannah is perfectly useless in preventing dacoities or apprehending offenders,—unless supported by a large Military force,—I brought the subject to your notice and recommended the Chief for employment. The chief object in the plundering expeditions is to obtain slaves. The village attacked is surrounded at night and generally set on fire, or a volley of muskets is fired into it. The inhabitants as they leave their burning houses are seized, the males are speared and the women and children carried away into slavery. In the distribution of plunder and slaves they are guided by their own recognised rules. The leader of the expedition receives a double share, the petty leaders a share each, and their followers generally the plunder secured by each individual. Adult males are difficult to manage and are invariably killed. The captive women and children are employed as domestic servants and considered valuable property; 200 Rupees is generally demanded as ransom for each captive. During the period of my stay in the hills for 4 months, with one exception, the most perfect harmony prevailed between my party and the surrounding Chiefs of banditti. For several months previous the Police had attempted to recover several captives and were unsuccessful; when I was about leaving Tuluknee, at the earnest intercession of their relatives, I obtained all the 12 captives, valued at 2,400 Rupees, through the clan influence of the Chiefs, 4 of whom were on my recommenda-

tion rewarded for their good services. I trust the manner in which I have carried out your instructions, to restore confidence amongst the low land people whose lives and property were exposed to attack, will meet with your approval.

10. The work of the current season will include the unfinished portion of the District, from the Bay of Bengal and Lemroo river on the west to the Yeomadoung range of hills on the Ava frontier. The Keoks of the two frontier circles Taudan and Lemroo, have informed me that in addition to the wild Khengs, there are several villages of Burmese dacoits, (living within their circles who pay no revenue, and say they are subjects of Ava), who it is likely will oppose my proceedings on the frontier.

11. The survey of the Akyab District will, I expect, be completed during the current season, and it will be necessary to have a Circuit prepared for survey in the Kyouk Phyoo District, otherwise my parties must of necessity remain idle in the beginning of the ensuing season, till the Jungle is cleared. I have every year followed this plan in the Akyab District, and had a circuit ready for survey with great advantage, and a fair season's work has been accomplished every season. I will depute parties early next month to the island of Cheduba, so they may be able to commence dividing the jungle portion of that Island into grants of suitable size.

12. It may be desirable to divide the Akyab District into suitable geographical limits, so that the positions of circles and grants may be easily ascertained. The boundaries of thannahs could also be determined before the preliminary District map is published.

13. I herewith enclose a sketch map of the surveyed part of the Akyab District, to enable the Board to see how far the survey has penetrated within the wild hilly tracts towards Chittagong.

I have the honor to be,

SIR,

Your most obedient Servant,

J. H. O'DONEL,

*Revenue Surveyor.*



