M.R.O. ...nt,

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No. 1673	Press Mis.
380-381.	
Dated 21-9- 1860.	

Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department, 21st September 1860.

No. 380. Read the following Proceedings of the Board of Revenue, dated 14th July 1860, No. 3,247 :—

Read the following letters from the Director of Revenue Settlement :—

No. 369, dated 23rd April 1860, reporting on the operations of the Settlement Department for the year 1859, and forwarding a Report from the Superintendent of Revenue Survey on those of the Survey Department for the same period.

(In Cons., 24th April 1860, No. 1,850.)

No. 393, dated 25th April 1860, forwarding for the inspection of the Board, original papers connected with the experiment made in the Godavery District, of measuring a village or two by the agency of Karanams.

(In Cons., 26th April 1860, No. 1,914.)

No. 561, dated 4th June 1860, forwarding a Report from the Superintendent of Revenue Survey, on the additional Survey party sanctioned by Government on 28th April 1859, for the surveyed Táluqs of South Arcot and Trichinopoly.

(In Cons., 5th June 1860, No. 2,663.)

No. 527, From the Superintendent of Revenue Survey, dated 22nd June 1860, furnishing explanations on certain points referred to in Mr. Newill's Annual Report above recorded.

(In Cons., 23rd June 1860, No. 3,016.)

1. In the operations of the Settlement Department for the year 1858, there were engaged two parties under Deputy Directors, one in South Arcot and Trichinopoly, and the other in Rajahmundry; a third party had been organized under Mr. Ballard on the 16th November 1858, for Masulipatam. The progress of these three parties, together with that of a fourth party constituted in August last under the superintendence of Mr. E. C. G. Thomas, for the Wainád Táluq, has to be reviewed in connection with the transactions of the past year.

4th August 1859, No. 3,020.

2. The special objects for which the Wainád Survey was undertaken are detailed in the Order of Government, dated 22nd June 1859, No. 822; in pursuance of which an elaborate Report was submitted by Mr. Newill on the 17th March 1860, No. 236, and approved generally by Government in their Proceedings, dated 16th May 1860, No. 789. The measures adopted in consequence, and the results which followed, will form one of the subjects of next year's Report. It may, however, be mentioned here that the organization of the above party was attended with greater difficulties than were experienced elsewhere, owing mainly to the reputed unhealthiness of the climate, the entire isolation of the Táluq, and the want of accommodation, and other conveniences which to the Natives are generally necessities. Mr. Thomas' energy and perseverance, however, overcame these difficulties in a measure, and field work was commenced about the middle of October, which was as soon as the rains admitted of it.

In Cons., 23rd June 1859, No. 2,999.
In Cons., 26th March 1860, A 1,382.
Do. 17th May 1860.

3. The subjoined Statement exhibits the work performed by the several parties under the head of Demarcation and Classification, and the expenditure incurred on account of each :—

Parties.	Demarkation.							Classification.							Remarks.
	Táluqs completed and in hand.	Number of villages.	Area in detail of fields.	Cost.	Average cost per square mile.			Táluqs completed and in hand.	Number of villages.	Area in detail of fields.	Cost.	Average cost per square mile.			
			Sq. m.	Rs.	Rs.	A.	P.			Sq. m.	Rs.	Rs.	A.	P.	
Godavery party.	12	462	1,044	44,834	42	15	6	12	432	713	28,594	40	2	0	
Krishna do....	10	445	986	39,586	40	2	1	8	396	697	28,951	41	8	4	
Trichinopoly and Salem do.....	8	520	948	29,256	30	13	11	12	780	1,360	44,413	32	10	7	
Wainád.....	...	...	...	12,830	...	...	...	...	...	...	...	...	...	...	Working commenced in October.
Total...	30	1,427	2,978	1,26,506	...	...	...	32	1,608	2,770	1,01,958	...	...	...	

12 6 06

228464

4. From the above Statement, it would appear that according to the Karanam's accounts corrected by a rough measurement by the Gumáshtas, the Godavery party has demarcated in actual detail of fields, an area of about 1,044 square miles, extending over twelve Táluqs and comprising 462 villages, of which 418 have been completed, and 44 are in progress. But in explanation of the apparent deficiency of the above area as compared with the prescribed annual standard of 1,250 square miles for each party, Mr. Newill mentions that Mr. Master, one of his Deputies, has found in several of the villages subsequently professionally surveyed, that the real area averaged more than 25 per cent. above that assumed in the Demarcation Returns from the Karanam's registered areas in Native measures converted into acres at an arbitrary rate of conversion, and occasionally tested by a rough measurement; and he considers that making reasonable allowance for the difference between the Returns and the correct area, and taking into account also that the Returns give only the actual detail of the demarcation in existing fields, which the gross *Ayacut* or cultivable area of the country demarcated must greatly exceed, the conclusion may fairly be drawn that the demarcation has come up to the estimate of progress, if not exceeded it.

Appendix A to Mr. Newill's Report.

5. The area classified in the Godavery District embraced five whole Táluqs, the greater part of three others, and a smaller portion of four more, and contains *in the details of fields* 713 square miles, which being augmented by 40 per cent. on account of the deficiency of the Karanam's accounts, and for the other reasons mentioned above, would amount to 1,000 square miles in round numbers, being 250 square miles below the prescribed standard. This defect in quantity Mr. Newill states is satisfactorily accounted for by the circumstance that only half the proposed number of classifiers was entertained during the first three months of the year. Moreover, the classification of a great portion of the Mogultur Táluq, and most of the Lunkahs or Islands of the three Táluqs of Mogultur, Tanuqu, and Relangi, had to be re-examined on account of the faulty character of the work done in them in the previous year by inexperienced Gumáshtas. Interruption also occurred from the Inám investigations being carried on at the same time as the classification, which rendered it impossible to secure the regular attendance of the Karanams.

6. On the whole Mr. Newill regards the progress of the Godavery party as satisfactory; but while prepared to make every allowance for the shortcomings of newly organized and untrained or weak-handed parties, the Board do not think this mode of estimating the extent of the deficiency in the work is quite admissible. An excess on the average of about 25 per cent. was detected by the *Survey* in many villages, over and above the Estimate of the area demarcated in fields as deduced from an arbitrary conversion into acres of the Karanam's rough accounts of the extent in the local measure corrected by an occasional check measurement roughly made by the Gumáshtas; and to this has to be added the extent of cultivable but hitherto uncultivated land demarcated in large blocks. The same correction has to be made for the classified area. Mr. Newill does not hazard any guess as to the allowance to be made on account of the item of uncultivated land, but shows that even an addition of 40 per cent. to the estimated area in fields will not bring the work of the latter branch of the Department up to the standard. The Board are aware that a correction to the large extent of 40 per cent. was made in the Report for 1858, but they think that in determining the results of *last* year's operations, the accounts ought to have been based on better *data*. In paragraph 7 of the Proceedings of Government, dated 6th October 1859, No. 1,361, after remarking that the great discrepancy between the Karanam's accounts of area and the correct one as ascertained by the Survey was not to be altogether attributed to fraud, but in a great measure to the varying nature of the local measure, the Pútti, which might be 8, 10 or 12 acres, or even more, based as it is on a seed estimate of the requirements of the soil, and therefore necessarily modified by its quality, while the areas given in the Demarcation and Classification Return are mainly obtained by a conversion at the arbitrary rate of eight acres to the Pútti, the Government observed "that this source of "misapprehension might be easily rectified hereafter, by converting into acres the Karanam's area as "given in Pútties, at the actual rate of the village, instead of at the general rate above stated." Correct and actual measurement is, however, necessary to obtain this local average or standard, but the Board are of opinion that some *data* of a more reliable nature than those used by Mr. Newill in his present Report ought by this time to have been obtained, as they are essential to an Esti-

In Cons., 7th October 1859, No. 5,020.

mate of the outturn of work and its cost. As matters now stand, the Board and Government have no authentic record of the area demarcated or classified in last year, or the year preceding; and if the same system be continued in future Reports, it will be impossible for either of them to compare the results of the Settlement operations with the cost, or to exercise any efficient check over those operations. They think it, therefore, highly desirable that a Comparative Statement should be at once prepared for a sufficient number of villages in each of the Districts in which operations are now being carried on, of the area shown on Estimate in the Demarcation and Classification Returns, and that subsequently ascertained by Survey, including the uncultivated arable area; and that from these an average rate of allowance should be deduced, by which the actual extent of the area demarcated or classified in the respective Districts may be hereafter estimated with some reasonable expectation of tolerable accuracy. Whenever the Survey of a village has been completed, the actual cost per square mile of the several operations of Demarcation, Classification and Survey ought, in the Board's opinion, to be calculated by the different Departments on the area *as ascertained by measurement*, and recorded, and from these facts a fair average of the general cost of the work might be struck.

7. In the Krishna District, six Táluqs have been completely demarcated in the year under review, and portions of four others, the estimated area of detail work amounting to 986 square miles, including about 50 square miles of islands in the Colair lake, and other localities where the fields are not permanent. These areas, however, are, as in case of the Godavery District, only approximate; and it is supposed that an increase of from 12 to 30 per cent. will be found when the exact extent has been ascertained. To the above Estimate must be also added large tracts of swamps and jungles in divisions of 400 to 1,000 acres, aggregating in all about 345 square miles, and making the Estimate of the total extent demarcated by the party, 1,331 square miles, which is in excess of the estimated annual standard.

8. The classification was commenced only in March 1859, and the Establishment gradually made up to the full standard, so that the estimated outturn altogether was only about 697 square miles for the year. The proportion of the expense charged to this section of the Establishment, amounting to Rupees 28,951, is greater than the cost of the more extended area classified in the Godavery District; but the circumstance is explained by the fact that for the first two or three months of the season, an excessive proportion of the whole salaries of the party was *employed* for demarcation alone, the classification agency being only gradually made up.

Rupees 28,594.

Paragraph 15.

9. The Trichinopoly and Salem party demarcated almost the whole of the Lalgudi and Musiri Táluqs, portions of two other Táluqs in the former District, and three and a half Táluqs in Salem; the estimated total extent being 948 square miles in detail of fields.

10. The classification comprised nine Táluqs, and portions of three others, including the complete Táluq of Cuddalore in South Arcot, and extended over an estimated area of about 1,998 square miles, of which 1,360 square miles are in detail of fields. Taken in conjunction with the demarcation, the estimated total gives a good outturn of work, notwithstanding some impediments occasioned by fever, and by the Karanams being drawn away for the preparation of the new form of field Register specially directed by Government.

11. With regard to the work of the Wainád party, Mr. Newill observes that it can scarcely be represented in figures, as the land measure in use in that Province is not one of any definite size, but of the extent which will produce a certain quantity of grain. Mr. Bayley in his Memorandum on Land Measures, says, that the extent of a field in Malabar is known by the name of the measure of grain required to sow it, which was probably the fact in the case of most, if not all of the original land measures of the country; and when the local measure is found to represent a definite superficial area, it may be safely assumed that an average has been deduced from the original measure, and adopted in later practice. It was ascertained by experiment in the adjoining District of Canara that the local seed measure averaged one acre on all classes of land, and Mr. Bayley gives certain averages for different parts of Malabar including the Wainád. If these were obtained by actual experiment, they may be used with advantage in estimating the areas operated on, pending the Survey and Measurement; and if not so obtained, it is very desirable that some experiment should be instituted at once. Owing to

Paragraph 20.

the late period of the year in which the Wainád party was organized, its operations have been chiefly of a preliminary character, such as clearing jungles for traverses, &c.; but one Amsham has also been completely demarcated and handed over for Survey, and in two others, the demarcation has progressed considerably; altogether about 400 paddy valleys, or other tracts have been demarcated, and registers formed of the fields, or other divisions.

12. The expenditure on the work of the Settlement Department for the season, amounted in the aggregate to Rupees 2,28,464, as follows:—

	Rs.
Central Office	59,425
Godavery party	55,295
Krishna do	50,404
Trichinopoly do	55,535
Wainád	7,805
	2,28,464

But if the aggregate cost be distributed among the four parties, in proportion to the estimate of work done by them, the result will be as shown in the Tabular Statement appended to paragraph 4; from which it appears that the cost per square mile of demarcation and classification in the Godavery District was Rupees 83-1-6, in the Krishna division, Rupees 81-10-5, and in Trichinopoly and Salem, Rupees 63-8-6; the last of which alone approximates to the sanctioned Estimate, viz., Rupees 51 for the classification and assessment, and Rupees 10 for the demarcation, or both together, Rupees 61 per square mile. Such a distribution must, however, be purely speculative in the absence of any means of testing the extent of the work performed.

To Government of India, 25th January 1858, No. 97, page 343 of printed Selections, No LIII.

13. Mr. Newill does not consider that this mode of distributing the cost over the assumed area can be adopted for any useful purpose, and the Board readily admit the argument; but they must repeat that in their opinion better *data* for testing the assumed area could and ought to have been obtained, and must be secured without delay to allow of any check on the progress and cost of the Settlement Department being maintained.

14. In paragraph 23 of his Report, Mr. Newill remarks on the inexpediency of pressing on the work in its earlier stages to the sacrifice of that accuracy which is attainable only by a more deliberate mode of conducting it, and in this opinion the Board entirely concur; but it appears to them that apparent shortcomings arising from such causes as those referred to above, should be plainly stated, and allowed to be judged of upon their own merits.

15. The inadequacy of European agency for the supervision of the work required of each Settlement party is next noticed; but the correspondence that appears to have been held with Government on the subject not having passed through the Board's Office, they are unable to offer any opinion on it, though they readily recognize the importance of the point.

16. Particular attention would appear to have been given in the past year to testing the work of the classifiers, by the appointment of more expert persons to examine it, and by means of Punchayets composed of Raiyats. The decision of the latter has for the most part confirmed the results arrived at by the classifiers in regard to the *relative value* of fields in the Godavery District; but in Masulipatam, it has not been practicable to secure much aid of this kind. It being of great importance to carry the confidence of the people with us in this matter, the Board trust that efforts to obtain their co-operation will not be relaxed.

17. In paragraphs 27 to 34, Mr. Newill refers to the measures taken during the past year for the purpose of fixing an assessment on the surveyed Táluqs. A Report on the Settlement of Chidambram and Manargudi in South Arcot was submitted in full detail on the 27th August 1859, No. 776, which the Board laid before Government with their Proceedings dated 3rd November 1859, No. 4,498, summing up in paragraph 22, the practical results of Mr. Newill's propositions. No orders have, however, yet been received. The system of adopting a separate water cess for the irrigated lands in the Godavery and Krishna Deltas has been approved by Government contrary to the opinion of the Board, in preference to that of classifying the lands of the Districts as wet or dry, and according to quality. The results have yet to be ascertained.

18. At paragraph 30 the Director complains of the small extent of completed work handed over by the Survey Department for final Settlement purposes during the year in the Godavery and Krishna Districts. This, however, the Superintendent has satisfactorily explained in the letter addressed to the Board on the 22nd ultimo, and recorded at the head of these Proceedings; and Mr. Newill in paragraph 59 gives the Survey Department full credit for having performed as much as could reasonably be expected from them under the system of operations, and the circumstances in which they have been placed.

Paragraph 30.

In Cons., 23rd June 1860, No. 3,016.

19. An increase has lately been sanctioned to the strength of the ordinary Survey parties, and an auxiliary party has been added in the Godavery District to hasten the progress of the Survey, and it is hoped that these means will be found effectual for that purpose; but the Board must at the same time point out that the Demarcation parties should not, in their opinion, be allowed to get so far ahead of the Survey, and that arrangements should be made to adjust the relative strength of the two departments, and thus to equalize the speed at which they advance. By this means the contingency anticipated by the Director at paragraph 32 may be averted.

O. G., 28th Dec. 1859, No. 1,779. In Cons., 7th June 1860, No. 55.

20. It is a subject for regret that circumstances have prevented the Settlement of the Sunkapooram and Chikadi Jaghires in South Arcot which were surveyed about five years ago, while the Survey Department was on its experimental footing. The Director apprehends that in consequence of the destruction of the field boundary marks put up at the time of the Survey and of the extension of the cultivation to tracts of land then waste, a re-survey may be found necessary. The Board trust, however, that this will not be the case.

21. The following Statement shows the number and description of boundary marks put up by the several Settlement parties during the year 1859:—

Appendix B, to Mr. Newill's Report.

Items.	Trichinopoly party.	Godavery.	Krishna.	Total.
Village Boundaries.				
Villages	508	558	496	1,562
Khandams, or Sub-divisions	755	2,083	3,337	6,175
Trijunction pillars	1,346	1,315	1,093	3,754
Secondary pillars	2,113	3,985	3,537	9,635
Other marks on village boundaries	24,200	25,241	12,189	61,630
Marks on Khandams	6,790	25,637	27,823	60,250
Field Boundaries.				
Number of villages	520	418	434	1,372
Villages divided into Khandams. { No. of Villages	234	379	434	1,047
Villages divided into Khandams. { ,, of Khandams	750	2,007	3,330	6,087
Number of fields marked	2,05,357	2,05,742	1,36,423	5,47,522
Do. of field marks	4,84,941	5,59,246	4,51,585	14,95,772

22. The above Statement does not call for any special remark from the Board, but they are glad to observe that considerable pains have been taken to secure the boundary marks against the monsoon floods, to which they are exposed in the Delta Districts. The Planting of trees and bushes of various kinds suited to the different description of soils has been successfully resorted to; and in the Colair lake in tracts which are fit for cultivation after the subsidence of the water, recourse has been had to stakes of durable wood where it was impracticable to build pillars: narrow strips of land to mark the limits of the *Survey fields* have also been secured in many places in conformity with the Bombay Survey Rules. These spaces are also found very convenient for the intercommunication of the villagers, particularly in the irrigated tracts where roads do not exist.

23. In paragraph 39, Mr Newill lays down two important axioms—1st, that as the Settlement Department passes away from the scene of Demarcation and Survey, the Revenue authorities of each District should be invested with the responsibility of keeping up the boundary marks; and 2nd, that all new lands in tracts that have been demarcated should be taken up in *entire* fields, no division of liability to assessment on the whole fields being recognized. The Board approve of these Rules generally; but with regard to the first, they would desire it to be understood that such lands must be formally handed over with the necessary accounts and maps to the Collector of the District before he can enforce the law providing for the maintenance of such marks; and on the second point they assume that the maximum of 20 acres for a Survey field is not to be exceeded in the Demarcation of these uncultivated tracts.

Paragraphs 41—43.

24. In concluding his notice of the Demarcation operations, Mr. Newill alludes to the arrangements which have been made to meet special circumstances in certain localities. In the Godavery Division and the Trichinopoly and Salem District certain feverish tracts of hilly and jungly country, cultivated only in isolated and shifting patches, have been demarcated only round their bases, as the labor, risk, and expense that would have been involved in their detailed demarcation would have been altogether incommensurate with the results obtainable. Similarly in the case of the Mutahdari Estates in the Salem District the exterior boundary alone has been demarcated; but where two or more adjacent villages held on other than Raiyatwari tenure are found in the midst of Raiyatwari villages, their several exterior boundaries are to be laid down and plotted into the maps. The arrangement seems the only feasible one under the circumstances.

25. After remarking in paragraph 44, on the inefficient working of Act XX of 1855, and the necessity of further provision for the settlement of boundary disputes, and the registry of rights and titles to property, as recommended in a Draft Act submitted by him, on 8th July 1859,

Paragraph 45.

In Cons. 12th March 1859, No. 1,023.

which the Board observe has passed its third reading in the Legislative Council, Mr. Newill notices the result of the experiment sanctioned by Government in their Proceedings, dated 10th March 1859, No. 290, for joint and simultaneous demarcation and classification of land by the same party. Viewed alone, and not in connection with the Survey operations, for the convenience of which, however, the Demarcation Establishment was primarily organized, the system has been found to work well in the Godavery and Trichinopoly Districts, but does not appear to have been equally successful in Masulipatam. The favorable result in the former case is attributed to the unusual energy and activity possessed by the present Supervisors and Inspectors at the heads of the parties, and in the absence of these qualities, success can scarcely be expected. Mr. Newill, however, considers the system on the whole a good one, and recommends that matters should go on as they are, provision being made for the separation of the two operations where necessary.

26. Mr. Newill's letter on consideration of which Government in their Proceedings, dated

In Cons., 12th March 1859, No. 1,023.

10th March 1859, No. 290, Revenue Department, sanctioned the union of the Demarcation and Classification parties, was not communicated to the Board with those Proceedings, but the Board do not concur in Mr. Newill's opinion that the union of the two operations by a combined party, working in advance and independently of the Survey, is a desirable arrangement. They regard the classification of the soils as an operation demanding the greatest care and skill, and specially needing to be closely supervised by an European Officer. It is intimately connected with the settlement of the assessment, and, therefore, is essentially a portion of the work of the Settlement Department. The Demarcation on the contrary is primarily necessary for the Survey; must precede it for the adjustment of all doubts and disputes regarding boundaries; for the establishment of the requisite marks; and the preparation of the rough plans of village boundaries and fields, showing the professional Surveyor the field for his work. It should not, however, precede the Survey too far in point of time, lest the marks be destroyed by weather or want of care before the Survey reaches the village. It is necessary that the operation should be supervised by an Officer possessing some revenue experience, and the powers needed for the decision of the disputes regarding occupancy and boundaries, and the Board think it highly desirable that if possible the Officer should be an

European; but they do not believe that one and the same Officer can possibly supervise as they need the two operations of Demarcation and Classification carried on by a combined party; they think that there is already cause to believe that the former operation requires to be much more closely supervised and carefully performed than it has hitherto been, and that it needs to be kept more in subservience to the convenience of the Survey Department; and they would, therefore, recommend that the system of the "combined party" receive further consideration, in view to the separation of the operations of Demarcation and Classification.

27. In paragraphs 47 to 51, Mr. Newill furnishes explanation on certain points noticed in the Board's Review of the Annual Report for 1858. As regards the boundary paths alluded to in paragraph 18 of the above Review, concerning which it was remarked that "as such pathways could be of "no use for the purposes of communication between villages, their formation appeared a mere "waste of time and labor," Mr. Newill states that "there appears to be some misapprehension, "for the rules do not prescribe the laying out of boundary paths where they do not exist, as is "conjectured, but simply the regulating their size where they generally prevail, as in the Northern "Districts." The wording of the rule referred to is "Where practicable, a broad pathway should be kept for "the village boundaries, and planted with palmyra or "other trees on each side; six yards my be taken as a rule for the minimum breadth of the "pathway." Here there is no limitation enjoined, such as that *now* stated by Mr. Newill, and the Board, therefore, still think that the rule should be modified in its terms.

Paragraph 47. 4th August 1859, No. 3,020.

Paragraph 16 of the Rules for the Demarcation of boundaries for the Revenue Survey.

28. Under the explanation which Mr. Newill affords on the other points to which the Board objected in the same paragraph, they withdraw those objections.

29. In paragraph 28 of the same Proceedings, the Board expressed their wish to have the Survey and measurements of a village conducted by Karanams submitted for their inspection, accompanied by the sketches of the Demarcation Department, the field books of the Karanams, and the maps prepared by the Survey Office; with a statement of the number of persons employed on the work, and the period occupied in each step of the process, and with a Comparative Statement of the areas of the minor circuits of the village and those of the included fields according to the Karanams' measurements, and an explanation of the causes of difference between them, with remarks on any peculiar disadvantages attending the system. The second letter recorded at the head of these Proceedings is in reply to that requisition.

30. Mr. Newill reports that two villages were selected; one already surveyed, so as to allow of a comparison of the work done by the Karanams being immediately made with the Survey areas; and the other not surveyed, so as to make sure that the Karanams could have no aid from the Survey Department. The result in the latter case has not been tested, but the former is said to show that the aggregated areas of the Survey and of the Karanams' measurements correspond within 8 per cent., but that the details contain numerous discrepancies of a very serious nature, such as would vitiate the Karanam's work as a basis of settlement.

31. The Board's examination of the results, however, shows that Mr. Newill is not quite correct in the above conclusions. Enclosure No. 5 of his letter contains a comparative list of the areas of the Deva village in the Mogultur Táluq, which they presume is the one he refers to. At the foot of the list, the total area of 527 fields according to the Survey is given as 938·88 acres, and according to Karanams' measurements as 930·95 acres, showing a disparity of *less than one per cent.* between the two totals, and not of eight *per cent.* as stated by Mr. Newill. In the details of the fields, there are about 50 cases in which the disparity between the Survey and Karanams' areas exceeds 10 per cent., while in the remaining 477 cases it falls short of that amount, and in very many, the difference is hardly appreciable. If the numerous items which appear among the Survey areas altered in red ink, are really corrections of the original calculations, it is evident that the disparity between the Karanams and Survey areas is not in many cases greater than that which sometimes may occur in the measurements of the same individual made at two different times. While, therefore, the Board think with Mr. Newill that the great inaccuracies which appear in some of the Karanams' measurements, tend to throw discredit upon their work generally, and to render it unsafe to be adopted as a basis of Settlement, they are not prepared to admit

that the experiment has proved that the scheme would be impracticable if its working were properly supervised, and limited to contracted areas.

32. There are, however, other points to be considered in judging of the desirableness or otherwise of adopting a system of measuring by Karanams. For instance, Mr. Master reports with reference to the Karanam of Deva, that every possible excuse was used by him to evade or postpone the work; and that it was only after the issue of constant warning orders, and the infliction of several fines that he at last accomplished it; and then the area measured by him gave only 5·68 acres per day for the whole time he was employed, or 14·73 acres per day for the 62 days during which measurement was actually going on. A similar unfavorable mention is made of the Karanam of Kolanapalli.

33. The Board think that this unwillingness to perform the work of measurement will be found very general among the Karanams, and that it will not be very easily overcome. Their employment also as measurers is scarcely compatible with the due discharge of their regular duties, more especially if, as is likely, their numbers be reduced by Mr. Pelly in the revision of the Village Establishments.

34. For these reasons the Board are of opinion that the employment of the agency of Karanams in substitution for that of the Survey Amíns is not desirable, and that if employed, the system will be found, on the whole, a failure.

35. The Demarcation and Classification operations appear to have far outstripped the Survey. The Statement appended to paragraph 56 of Mr. Newill's Report, showing that from the commencement of the Settlement operations 2,007 square miles have been surveyed, while 4,434 square miles have been demarcated, and 3,299 classified. The Demarcation, therefore, has outstripped the Survey by 2,427 square miles, and the Classification by 1,292 square miles up to the close of 1859.

36. This slower progress of the Survey Captain Priestley attributes in a great measure to the faultiness of the Demarcation work. He represents that detached villages scattered over more than one, and sometimes over the whole extent of two Táluqs, are handed over for Survey as demarcated; but that independently of the difficulty of dealing with the area to be surveyed in this fragmentary manner, the work is in parts found so defective as to seriously impede the measurement by the Survey Department. He also states that when the demarcation of swampy or irrigated tracts is completed so short a time *before* the monsoon that the Survey is of necessity postponed until *after* its close, the marks are found to be to a great extent obliterated. He dwells on the evil arising from the want of European supervision in the detail operations of Demarcation, and from the absence of any check till the Survey actually goes over the ground; and he observes that delay is an inevitable consequence of the fields being demarcated in irregular shapes.

37. The Board are disposed to think that Captain Priestley has reason for these remarks generally, but the remedy appears to be with the Director; and as regards the inconvenience arising from the irregular shape of some of the fields, the Board do not see how this can be rectified, or obviated; as in the case of occupied land, the Demarcation must be made in accordance with the existing boundaries of the fields.

38. Captain Priestley recommends, with the view of obviating some of these difficulties now existing to the rapid progress of the Survey, that as an experiment, the Demarcation Establishment in the south should be transferred to the Deputy Superintendent of Survey, to whom an extra first-class Assistant for the express purpose of taking charge of Demarcation should be given, with such powers as may be necessary to enable him to do his duty.

39. Mr. Newill, on the other hand, is altogether opposed to this arrangement. He observes that Demarcation Registers of fields are *revenue* accounts, and the basis of

Paragraph 52.

the revenue assessment; while the preparation of these and the settlement of disputes require revenue knowledge, and the exercise of judicial powers, in which the Survey Officers have had no means of sufficiently qualifying themselves. Moreover, that so long as the Survey Department is purely a professional one, and in this respect separate from the Settlement branch, its predilection will naturally be to adapt every thing to the convenience of the Survey, rather than to the existing divisions of property and the formation of the Revenue Settlement on that basis, as was the case in the experimental Survey of South Arcot.

On this latter remark Captain Priestley observes, that the defects alluded to as having existed in South Arcot, were not owing to the Demarcation Establishments being attached to the Survey Department, but to the absence of a Demarcation Establishment altogether.

Enclosure 1 to letter, dated 22nd June 1860, No. 527. In Cons., 23rd June 1860, No. 3,016.

40. As the primary object of Demarcation is to facilitate the progress of the Survey by preparing well-defined boundaries for its operations, every practicable attention should be paid to the requirements of the Survey Department, at the same time that the fact of the work being closely connected with Revenue accounts and registers is kept steadily in view. The Board would therefore advise that the constitution of the Demarcation Establishment should be restored to its original form, as distinct from the Classification branch, and placed under efficient supervision as above recommended; but that its operations as regards locality and general proceeding should be directed in communication with the Superintendent of Revenue Survey, and in general accordance with his wishes.

41. In regard to the *future* operations of the Settlement Department, Mr. Newill proposes in paragraph 60 of his Report to transfer the Godavery party after the completion of its present work to the Nellore District, agreeably to the views expressed by Government. The Southern party will have ample work in the completion of the Trichinopoly District, and in Salem where it is now fairly in progress. To this plan there seems no objection, as it is understood that a Survey party will be organized for the Nellore District, at the same time that the Demarcation and Classification is undertaken.

42. In connection with the subject of future operations in Nellore, Mr. Newill suggests that the Settlement Department should as an experiment, undertake the field measurements, simultaneously with Demarcation and Classification, under suitable checks, leaving the Survey Department to survey the villages, boundaries and other divisions with all topographical features, which will enable the latter to augment its speed. It is unnecessary for the Board to discuss the proposal here, as in a letter, dated 22nd June 1860, disposed of in the Board's Proceedings, dated 14th July 1860, No. 3,248, Mr. Newill modifies his suggestion, and recommends another arrangement. It will be sufficient here to remark that the Board disapprove of the principles involved in the scheme above-mentioned.

43. The last point to be noticed in connection with the Settlement operations of the past year is the suggestion of Doctor Scott, the Chemical Examiner at Madras, that the analysis of soils should be made in England by some one of the scientific men who have given their attention to the subject of Agricultural Chemistry, on the ground of his not having time enough to do it himself. The Board do not doubt that some other arrangement can be made in communication with the Head of the Medical Department, for the performance of such analysis as Mr. Newill may require. Government have already remarked that the classification of soils according to their relative advantages, must depend on other considerations than the niceties of Chemical analysis.

Letter dated 16th September 1859, No. 62, enclosure 3 of Mr Newill's Report.

44. Having thus reviewed the operations of the Settlement Department for the past year, the Board will now proceed to remark on those of the Survey Department, a report on which forms the 5th enclosure to Mr. Newill's Report.

45. Captain Priestley begins by giving an account of the proceedings of the Survey party in Trichinopoly, under the superintendence of Captain Hessey. Field work in that District commenced only in February 1859, it being on the 5th of that month that the sketches and records of 40 villages in Torriore were handed over by the Demarcation Department. From Torriore, the Survey party proceeded to the unirrigated villages of Lalgoody, thence to the Máseri Táluq and subsequently to Namcul in the Salem District, their work being of a desultory character owing to their dependence on the Demarcation Department; and in some cases the nature or condition of the locality which they were thus compelled to take up unseasonably, was such as seriously to impede the progress of the Survey.

46. Notwithstanding these difficulties, the total area surveyed during the year by this party was 780 square miles, of which 687 were in detail of fields, the daily average rate of work being $62\frac{3}{4}$ acres per Amín, compared with the work of last year; this exhibits an increase of 256 square miles in the extent measured in fields, and of 130 square miles in the aggregate.

47. The cost of the Trichinopoly party including estimated measurement allowances, was Rupees 49,002-2-3, which being divided by 780, gives an average of Rupees 62·82 as the cost per mile. If to the above amount, a portion of the charges of the Central Office be added, viz., Rupees 4,956-1-11, the total expenditure on the party rises to Rupees 53,958-4-2, and the cost per mile to Rupees 69·17. Thus the result of last year's work is an *increase* of 50 per cent. in the area measured by each Amín as compared with the outturn of 1858, and a *decrease* of Rupees 9·41 per square mile in the cost. In these respects, it is gratifying to observe that the expectations entertained by the Board in last year have not been dis-

Vide Board's Proceedings, 4th August 1859, No. 3,020, paragraph 61.

appointed. The circuit work is stated to have been somewhat delayed by the sickness of the persons employed, and by defective demarcation; but Captain Priestley acknowledges the great assistance he has derived from having the demarcation of boundaries made for him.

48. The cost of the work turned out is still, however, considerably above the Estimate; and although the daily average of work per Amín is above the estimate of 60 acres, still the number of working days for each man appears to have been no more than 167 for the 11 months, instead of 231, as it should have been according to the original Estimate of 260 working days for the year; and the outturn of work is necessarily and proportionately reduced, while its cost is augmented.

49. If, as Captain Priestley would seem to think, the unsystematic mode in which the Demarcation party worked, and the consequently incompact field of operations over which the Survey party was scattered, were the chief causes of this loss of time and additional expense, the fact strengthens the arguments for a reconstruction of the Demarcation branch.

50. Owing to the reductions of assessment in South Arcot and Trichinopoly, a vast extension of cultivation has taken place there, beyond the area which was at first actually surveyed and mapped. A small special Establishment was, therefore, sanctioned at a monthly cost of Rupees 213, for the purpose of adding the newly taken-up land to the old accounts and maps, and commenced work in April 1859. Its progress is reported in the third letter recorded at the head of these Proceedings.

Cuddalore	14
Chedambram	146
Manargoody	197
	357

51. The alterations and additions to the maps of the Cuddalore, Chedambram, and Manargoody Táluqs have been completed. The total number of villages in the above Táluqs in the maps and accounts of which corrections have been made is 357, and the cost of the work amounts to Rupees 1,679-6-2.

52. Captain Priestley, however, considers some changes necessary in the details of the Establishment without exceeding the amount sanctioned by Government. These changes are shown in paragraph 7 of his Report, and are approved of by the Director of Revenue Settlement. The Board, therefore, recommend that sanction be granted for carrying them out.

	Rs.
2 Amins	34
2 Gumáshtas	16
2 Peons	10
1 Draughtsman	10
1 Office Gumáshta	10
	80

53. Captain Priestley recommends additions as shown in the margin to the present small party, at a monthly cost of Rupees 80 until the arrears of this work in the Trichinopoly District are brought up. Mr. Newill has apparently overlooked this part of Captain Priestley's Report as no allusion is made to it in his remarks, but the Board would recommend the measure for sanction.

54. The Rajahmundry Survey party commenced work in January 1859, but was not fully organized till April of that year. It commenced operations in May in the Mogultur Táluq, the most difficult for Survey, as its northern and well-cultivated portion is intersected by unbridged channels of all dimensions, and the southern, by creeks and drainage channels that can be crossed only by ferries. In consequence of these difficulties, both the field measurements and scientific part of the Survey were much impeded, and triangulation had to be substituted in many instances for chain measurements. Imperfect Demarcation is also stated to have proved an obstruction to the work, by rendering revision and remeasurement necessary in many cases.

55. In February, work was commenced in the Tanuku and Relangi Táluqs, which although then belonging to different Districts are so interlaced that they were taken for Survey as one. In August, field work was brought to a close, in order to provide employment for the Settlement

Department, by furnishing them with field and other areas, for which purpose the recess was prolonged to the 10th December, when field operations were commenced in the Nagarum Táluq.

In Mogultur	208
Tanuku and Relangi	260
Nagarum	20
	488

56. The area surveyed by the Rajahmundry party during the year, is about 488 square miles. The cost exclusive of a share of the Central Office is Rupees 39,421-8-10, giving an average of Rupees 80·78 per square mile. With the charge for superintendence, the cost is enhanced to Rupees 44,377-10-9, and the average rate per mile to Rupees 90·93.

57. The first steps towards the formation of a Survey party in Masulipatam were taken in January 1859; by March, its nucleus was completed, and it was handed over to Captain Pratt at the beginning of April. Much delay was, however, caused by faulty demarcation, by the opposition of the people of Padana, by the appearance of cholera, and by the want of measurers.

58. The extent of land surveyed in the Krishna District, amounts in all to 294 square miles, of which 263 square miles were measured in detail. The amount expended is Rupees 33,058-13-11, showing the cost of Survey per square mile to be Rupees 112·44, exclusive of a share of the expenditure on the Central Office. With this addition the aggregate cost is increased to Rupees 38,014-15-10, and the rate per mile to Rupees 129·29.

59. The operations in Wainád commenced in October 1859, and comprised chiefly organization and instruction, great difficulty having been experienced in obtaining men for the work. The circuits of a few villages, and the measurements in detail of some paddy swamps, have, however, been accomplished. The sum expended during the year is Rupees 4,481-7-6, to which a due proportion of the Central Office expenses being added, the total amounts to Rupees 5,535-6-5.

60. Thus, the Trichinopoly party has, as was to be expected, more nearly attained the estimate of work expected of it, both as to quantity and cost than either of the parties in the North, a result which is no doubt mainly due to the shorter time that has expired since the organization of the latter parties, and to the greater difficulties encountered in their field of operations. Captain Priestley states that he feels certain that a large

Paragraph 2 of general remarks.

advance will hereafter be made on the work performed during the last season, but he doubts whether under any circumstances, parties will ever be able to carry on their work in the Godavery and Krishna Deltas at the rate which has been attained in the Southern Provinces. This last, however, is till much below the Estimate, but no doubt the system of irrigation under the Godavery and Krishna works must oppose obstacles to the progress of a Survey not likely to be encountered elsewhere to the same extent (unless in the Tanjore District) at present.

61. The Lithographic Establishment, which the Board regret to find is still laboring under difficulties in regard to its efficient equipment, has printed Maps of 145 villages, making in all 4,495 copies. Of these two copies have been submitted as specimens by Captain Priestley. They are executed in colors, but there is room for further improvement. The aggregate cost of the Press for the year amounts to Rupees 4,125-13-7, so that each copy has cost rather less than 1 Rupee. But dividing the expense by the number of villages the result is Rupees 28 for each Map, as stated by Mr. Newill, which must be considered very high.

Paragraph 58.

Indeed, as the average size of each village is reported to be little more than *half* a square mile, it is evident that at the above rate, the cost of lithographing the Map of each village will be equal to that allowed for *surveying* its area. The Press is, however, in its infancy, and rapid improvement may reasonably be expected.

62. It does not appear from the present Report that any attempt has yet been made to prepare Táluq or District Maps. The Board are desirous of seeing a beginning made as early as possible with this portion of the work which was included in the Estimate. The Home Government have already drawn attention to the non-preparation of the Táluq Maps.

Despatch, 3rd May 1860, No. 27—Vide Government Proceedings, 2nd June 1860, No. 916, in Cons., 4th June 1860, No. 2,631.

63. With regard to the inquiries made in paragraph 70 of the Board's Proceedings, dated 4th August 1859, No. 3,020, Captain Priestley states that the correction of the bearings of the main circuit station lines by astronomical observation has been rigorously carried out, that the

maximum error allowed by him is one in every five observations, and that this amount has never been exceeded. It is gratifying to find so much attention paid to the scientific accuracy of the Survey operations.

Appendix B. 64. Captain Priestley also furnishes a statement exhibiting a comparison between the results of the Trigonometrical Survey, and those of the Madras Revenue Survey. From this, it appears that the maximum error per mile in Trichinopoly is 16·8 feet, the minimum 0·6 feet, giving an average of 9 feet nearly. In Masulipatam, on the other hand, the error ranges from 4·2 feet to 21·1 feet per mile, 9·4 feet being the average; but as the Trigonometrical Survey operations in Masulipatam are not entitled to much credit, no opinion can be formed on the above disparity.

Second edition. It will be seen from the Remarks and Comparative Tables given at pages 504—506 of the Manual of Surveying, by Captains Smith and Thuillier that the results reported by Captain Priestley are highly creditable to the Madras Revenue Survey.

65. In regard to the instruction of Karanams in the method of field measurement, Captain Priestley reports that little has been done, owing chiefly to the difficulty of securing their attendance under the constant calls made on their time by other duties. But instruction was, however, afforded to 47 Karanams in the Godavery, and to 19 in Krishna District, and 31 villages were measured in detail by Karanams in the Volcondapooram Táluq, Trichinopoly District, after which as no Karanams presented themselves, the instruction ceased. Captain Pratt, Deputy Superintendent in the Krishna District, reports that the class to which the Karanams there belong, appears intelligent, and *quite capable of acquiring a competent knowledge of the simple method of mensuration adopted in the survey*, but the same objections present themselves here as elsewhere to the employment of these men as measurers.

66. Among the drawbacks which still exist to the efficiency and rapid progress of the Survey, Captain Priestley enumerates first the want of power in the Survey Officers to compel the attendance of villagers, and second the present system of demarcation, coupled as it now is with classification. In regard to the first point the Board observe that legal authority has been sought from the Legislature to compel the attendance of villagers, for facilitating the demarcation and measurement of holdings and village boundaries, which will probably suffice to meet the difficulty, the Bill having recently passed. The second point has been already noticed in these Proceedings.

67. Adverting to Captain Priestley's letter of the 22d instant, the Board here deem it right to express as their opinion that it is desirable that the Superintendent of the Survey should be furnished with early copies of all letters and reports of importance, and should have free access to the records of the Director of Revenue Settlement.

68. The Board cannot believe that the omission to supply Captain Priestley with one of the 30 copies of the Report for 1859, which were sent to the Director by the Board of Revenue, was more than an accidental oversight, but care should be taken that the Superintendent is kept informed of everything which occurs affecting the Survey and Assessment.

69. In conclusion, the Board would observe that they do not consider, that an Annual Report is the proper place to discuss the principles on which the operations of the Survey and Assessment are to be conducted, but they have felt constrained to make the brief remarks they have done on those questions which have been brought forward, especially as they had no opportunity of expressing their views on some of them before.

70. As regards the work generally it appears to the Board that the following is the proper course to be pursued.

71. First, the Demarcation involving as it does the settlement of all boundary disputes; then the professional Survey; after which the classification of the Soils; and lastly, the imposition of the Assessment. Each successive step should, they think, follow the former without delay; in fact the whole work should be carried on in such regular order, that no one part should be allowed to get inconveniently ahead of the other.

72. The Board have not had much if any voice in the general operations of the past year. In most cases the action of Government has been direct; while on a few points the opinion of the Board has been asked for.

73. If permitted to express their opinion on the subject it would be that the operation have been too widely scattered over the country to be readily kept under the direction and control of the Director and Superintendent.

74. The Board would recommend that the operations be so concentrated that both the Director and the Superintendent may exercise immediate supervision over the field work, which cannot well be done if their Head-quarters are, as hitherto, at a long distance from the scene of action.

75. It is to be regretted that the Report now submitted does not show that any *finished* work was turned out during the year; but this the Board believe to be owing to the Director not having been yet furnished with explicit orders from Government upon the principles upon which the Assessment is to be calculated and the land to be divided into Classes or Tarams.

76. The Board notice with pleasure the highly favorable terms in which Mr. Newill and Captain Priestley bear testimony to the zeal, energy and abilities of their respective European Subordinates.

77. They regret that considerable delay has occurred in the submission of these Proceedings, which resulted partly from the Report reaching them only in manuscript, and having to be subsequently printed under Mr. Newill's supervision, and partly from the necessity of referring to Captain Priestley on some points, before the Board could satisfactorily pass their remarks on them. It will also be observed that the Report on one small portion of the operations did not reach the Board till 5th June 1860.

(A true Extract.)

(Signed) W. HUDLESTON,
Sub-Secretary.

ORDER THEREON, 21st September 1860, No. 1,673.

No. 381.

1. In these Proceedings the Board of Revenue review the operations of the Revenue Settlement and Survey Departments during the year 1859. Four parties were at work during the whole or parts of the year, being double the number during 1858; for though Mr. Ballard's party is said to have been organized in 1858, it was not fairly at work until after his arrival at Masulipatam at the commencement of 1859. As regards the fourth or Wainád party, actual work was only commenced late in the year under consideration, and from various unavoidable causes no very tangible results are forthcoming of actual progress made.

2. The Board's Proceedings enter fully and at great length into the various subjects comprized in the reports from the Director of Settlement, and the Superintendent of Survey respectively, but it is only necessary for the Government to record briefly their remarks upon some of the principal points under consideration, and to pass such orders as may seem required.

3. The Governor in Council concurs in most of what is laid down by the Board in paragraph 6. Mr. Newill is doubtless justified as has been acknowledged on former occasions, in considering the Karanams statements of the contents of villages, to be much below the reality, but the Board truly remark that more certainty as to the rate of the excess ought to be attainable than the vague estimates now put forward from year to year. The Government will not object to the preparation of such a comparative statement as the Board propose; but they must express a doubt whether an average so arrived at will be of much use. They believe that the measure in use in any village is always constant; and if so it will be sufficient to ascertain its value by actual trial in each village as undertaken. The course pointed out in the last sentence of the paragraph (6) under consideration is correct; and should be carried into effect without delay for such villages as have been already completed.

4. The classification in the two northern parties hardly reached half of that performed in Trichinopoly and Salem. Several reasons for this are put forward. In the Godavery only half the proper strength of classifiers was entertained during the first quarter of the year; and much work belonging to the previous year had to be done over again, from its being found so extremely erroneous, and this of course could not be entered in the accounts. In the Krishna party no classifiers were entertained till after the lapse of some months, and the full strength of the party was only gradually completed. The Board notice (paragraph 8) that the proportion of the expense charged to this section of the work in the Krishna District is greater than in the Godavery, though the area classified was larger in the latter; but if the reason is that during a portion of the time "a large proportion of the whole "salaries" was employed for demarcation, then the amount entered as the cost of demarcation in the Krishna District does not represent the whole cost of the work.

Vide statement, paragraph 3 of Board's Proceedings.

5. It is observed that the Board have already been requested* to report upon a measure proposed by Mr. Newill for increasing the European agency in his Department.

Board's Proceedings, paragraph 15.

* *G. O. 25th July* 1860, *No.* 1,240.

6. The Government are glad to perceive that the testing of the classification has been attended to. The Classification is a most important element in the settlement; and the more the sympathies of the raiyats are enlisted now, in the obtaining correct estimates of the qualities of soils, the greater will be their interest hereafter, and the greater the probability of their cordial acquiescence in the settlement itself.

Board's Proceedings, paragraph 16.

7. The permanent preservation of boundary marks is a matter of much difficulty. The report of the field marks of the Godavery Delta (paragraph 36 of Mr. Newill's report) is more favorable than might have been expected: but it is evident that the marks are not of a nature or in a condition to be permanent without much care. The Government agree with the Board in the condition appended to the first of Mr. Newill's "axioms," viz., that relating to the preservation of boundary marks by Collectors.† But as to the second of those axioms, the Government doubt the possibility as well as the expediency of refusing to break Survey fields of waste, when extending to twenty acres. It should never be forgotten that the Survey is a means and not an end; and that arbitrary rules for the convenience of the Survey, but tending to hinder the free occupation or management of land, must be an evil.

Board's Proceedings, 21—23.

† *See para. 23 of Board's Proceedings.*

8. In these paragraphs the Board discuss the plan now in operation, introduced early last year, which combines demarcation and classification. The Director of Revenue Settlement and the Superintendent of the Survey are at issue on the subject. The former defends and upholds the existing arrangement, though admitting defects in it; the latter considers that it has not worked well, and that it ought to be changed. The Board express agreement in opinion with Captain Priestley. The Government are of opinion that Captain Priestley has stated some solid practical objections to the present plan of proceeding, which have not been satisfactorily met; but the subject has not been fully considered, and an Annual Report is not a proper place for discussing such a question. The Board will be requested to take it up separately and report to Government upon it; and, in the opinion of the Governor in Council this will be best done after a personal conference with both Mr. Newill and Captain Priestley.

Board's Proceedings, paragraphs 25 and 26 and 35 to 40.

9. Some modification seems to be necessary, as the Board point out, in the rule alluded to in paragraph 27, regarding the village boundary paths, so that its actual meaning (as now settled) may be more exactly expressed.

10. In paragraphs 29 to 34 the Board review the results of the measurement by the Karanams of one village and a portion of another in the Godavery District. The work was undertaken at the Board's direction,‡ and with a view to test the practicability of a scheme for leaving the measurements of the village sub-divisions generally to the Karanams. The Government have already on a full consideration of the matter, decided against the proposed scheme;* and the result of the experiment now reported confirms the propriety of that decision.

‡ *Vide paragraph 28 of Board's Proceedings, dated 4th August* 1859, *No.* 3,020.

* *November 23rd* 1859, *No.* 1,594.

11. In paragraph 45 *et seq.* the Board review the operations of the Survey Department. The progress of the Trichinopoly party as sketched in paragraphs 45 to 49 is satisfactory. It must be expected that the cost of the work hitherto turned out should be above the estimate. The longer a Survey has been established in any District, the more nearly the work accomplished approximates, both as to quantity and cost, to the original estimate. The Superintendent justly remarks that the "maximum was to be attained after the lapse "of some considerable time" when the party would be composed entirely of "experienced men" and the full amount sanctioned would be expended. The results for the year in the Godavery and Krishna Districts bear out these remarks, and the Government confidently look forward to continued improvement in the current year.

Enclosure 1 to letter of 22nd June 1860, *No.* 527.

Paragraphs 54 to 60 of the Board's Proceedings.

12. The changes and additions to Establishments noticed in paragraphs 52 and 53 of the Board's Proceedings should be applied for separately. An Annual Report is not the place for such applications.

13. The Board's remarks in paragraph 61 as to the cost of the lithographic establishment should receive attention from Captain Priestley. The facts connected with the Survey, noticed in paragraphs 63 and 64, are highly creditable to the Superintendent.

14. Adverting to paragraph 66, the Government observe that Section 30 of Act XXVIII of 1860 empowers the Governor in Council to invest the Subordinates of both the Settlement and the Survey Departments with any portion of the powers conferred under the Act. This authority given to the Survey Officers will remove the first of the hindrances to the Survey mentioned by Captain Priestley.

15. The Government fully agree in the opinion expressed by the Board in paragraph 67 as to the propriety of the Survey Superintendent being furnished with letters and orders of importance relating to the Settlement Department. Henceforward, to avoid delay, copies of such letters and orders issuing from the Government Office will be sent direct to Captain Priestley.

16. The Government are not aware what is referred to by the Board in paragraph 75, or what application from Mr. Newill on the subject in question is unreplied to.

17. In closing these observations, the Governor in Council must remark that Mr. Newill has mistaken the proper scope and intention of an Annual Report. Such a document is designed to be a brief narrative of the transactions of the year, with Statements of expenditure, work accomplished, and other results. Discussions of principles, or of past or projected changes of system or practice, are out of place in such a paper; they encumber and delay it, while they themselves cannot be dealt with to advantage. This has properly been pointed out by the Board in paragraph 69. It is no wonder at all that so lengthy a paper as Mr. Newill's Report for 1859 should not be ready till near the end of April, or that the Board should take three months to review it. A real and proper Annual Report, on the contrary, might be ready by the end of January, and be before Government by the end of February. Mr. Newill will be directed to bear these remarks in mind in preparing his Report for the current year.

(Signed) J. D. BOURDILLON,
Secretary to Government.

In Con. 26th April 1860, No. 1,914.

From H. NEWILL, Esq., Director of Revenue Settlement,
dated Madras, 25th April 1860, No. 393.

No. 369. In reference to paragraph 50 of my Report, dated 23rd instant, I have the honor to forward, for the inspection of the Board, the original papers, as per annexed List, connected with the experiment made in the Godavery District, of measuring a village or two by the agency of the Karnams.

No. 399. 2. The specific instructions conveyed to my Deputy on the subject, are contained in the copy of my Proceedings of 12th May 1859, appended. Two villages were selected, viz., one already surveyed to enable a comparison to be immediately made of the Karnams' with the survey areas; and another one not surveyed, so as to make doubly sure that the Karnams could have no aid from the Survey Department.

3. The result in the latter case has not yet been tested, as the village has not yet been surveyed. In the former case, the aggregated areas of the Survey, and of the Karnams' measurements correspond within eight per cent., but the details contain numerous discrepancies of a very serious nature, such as would vitiate the Karnams' work as a basis of Settlement.

4. The papers shew that considerable knowledge has been acquired by the Karnams in the correct mode of measurement, and keeping a Field Book, but that the work is still very imperfect, while the time occupied in it is something excessive, and out of all proportion.

5. The conclusion I arrive at from these feeble experiments and from other observation, is that in the case of its being necessary to employ non-professional agency for the field measurements, it will be better to have it of a limited and special character, so as to admit of its being properly and speedily trained, and thus turned to the best account. The training of Karnams, who have numerous other duties to attend to, is a desultory work; and although the extension to them of a general knowledge of Surveying, as opportunity occurs, is useful and desirable, it is less satisfactory as regards the accuracy and progress of work to rely upon their services, than to employ a separate set of measurers on a systematic plan, by which the proficiency and experience once acquired may be utilized in applying it to sucessive fields of work.

Proceedings of the Director of Revenue Settlement,
dated Masuliptam, 12th May 1859, No. 399.

As many of the Karnams in Rajahmundry have had some training in Surveying both with the Survey Class and with the regular Survey Department, it is desirable that an experiment should now be made as to how far they are capable of carrying on some of the details of the Survey for Revenue purposes.

2. Mr. Master is requested accordingly to take up two Demarcated Villages, of which the Karnams have had instruction in measuring, and to get the details measured by the Karnams, who should be supplied with the Sketch Maps of the fields of each Khandam as prepared by the Demarcation Department. The Telugu Manual of Instructions for conducting the Khusrah or field measurements by Karnams, &c., of which some packets were deposited in Mr. Master's Kacheri, will be a further guide. The Field Books should be kept, if practicable, in the form prescribed, or in any case, the dimensions should be entered on each side of the field in the Sketch Map, and an abbreviated account for each field be made up in consecutive order to give the areas.

3. It may, without much inconvenience to the Survey Department, be arranged that the Village and Khandam circuits of the two villages should be worked by the time the Karnams have completed their measurement, and that a few of the fields should be tested by the Survey Department; or it would be better still for Mr. Master to take one village already surveyed in detail, if he can ensure the certainty of the details of the Survey Accounts being kept from the Karnams. The other village should in any case be an unsurveyed one.

4. A report should accompany the results of the above experiment, with particulars as to time employed; the rate of work; the comparison of the aggregated areas of each Khandam, with the area derived from the traverse; and the discrepancies in areas in the fields examined by the Survey Department for check.

5. The Director wishes the same experiment to be made in two villages in the Masulipatam District, to which Mr. Ballard will give his attention in the manner above described.

6. The Superintendent of Revenue Survey is requested to make the necessary arrangements in communication with the Deputy Directors of Revenue Settlement and the Deputy Superintendents of Revenue Survey, for carrying out the above measures, and at the same time to ascertain what steps would be necessary, in case of the Karnams measuring the fields, for the filling in of topographical details so as to make the Maps useful for general purposes, and the probable cost of the same.

(True copy.)

(Signed) H. NEWILL,
Director of Revenue Settlement.

LIST OF PAPERS SENT HEREWITH.

Letter from Deputy Director Revenue Settlement, Godavery District, dated 29th March 1860, No. 29 with the following enclosures:—
List of Survey areas of the first Khandam of Kolanapilli in the Undi Taluq.
Field Book, No. 1, of Kolanapilli in do.
Do. do. No. 2 of do. do.
Sketch Map of first Khandam of do.
Letter from do. do. dated 17th April 1860, No. 33, with the following enclosures:—
Field Book, No. 1, of the village of Deva in Mogultur Taluq.
Do. do. No. 2 of do. do.
Do. do. of second Khandam of do.
Do. do. of third do. of do.
Comparative Statement of the Survey area and the Karnam's measurements.

ENC. 1.

From R. E. MASTER, Esq., Deputy Director of Revenue Settlement, Godavery District,
To H. NEWILL, Esq., Director of Revenue Settlement, Madras,
dated Yeleswaram, 29th March 1860, No. 29.

With reference to your Memorandum of the 15th instant, No. 225, received yesterday, directing me to report immediately on the Experimental Surveys made through the agency of Karnams, I have the honor to state that in accordance with your Proceedings of the 12th May last, No. 399, two Villages were selected for this purpose as having Karnams tolerably well-trained in Surveying, viz., Deva in the Mogaltur Taluq, and Kolanapalli in that of Undi; the former had already been regularly surveyed by an Amin, but the latter had not been measured.

2. The Karnam of Deva began his work on the 28th May and finished it on the 4th November, a period of 161 days. Only 62 days were, however, actually occupied in measuring. During 99 days no work was done. Every possible excuse was used to evade or postpone the work, and it was only after the issue of constant warning orders and the infliction of several fines, that it was at last accomplished. The Karnam perpetually pretended that either he himself or his relatives were sick; that all the Village Servants had absconded through fear of the Cholera; that the rain prevented him from working, &c., &c. The area measured 914·34 acres gives an average of 5·68 acres for the whole time employed, or one of 14·73 acres for the 62 days during which measurement was actually going on.

3. As the village had already been surveyed I handed over the Karnam's Field Books and other papers to Captain Crewe that the necessary comparision might be made in his Office, and they have not yet been returned to me. I have applied to him for them as well as for a Memorandum of the result of the comparison, and I will forward them as soon as I receive them; though, as an immediate report is now called for, and I am at a great distance from the Survey Office, I do not delay the despatch of this letter.

4. The Karnam of Kolanapalli was found not to be sufficiently qualified to measure without further training in the Survey Office, and when that was accomplished, his services were required by the Inam Commission, and it was not till the 26th November that I was able to set him to work. Even then he adopted the same system of evasions as the Deva Karnam, and the same warnings and fines were necessary. He did not finish the first Khandam till the 28th January, a period of 64 days, of which only 34 were actually spent in measuring. The average work per diem for the whole time was 4·55 acres, or for the 34 days 8·56 acres. The performance being thus unsatisfactory, and the Demarcation Sketches of the village being required by the regular Survey Party; and, moreover, it appearing from the Proceedings of Government of the 23rd November last, No. 1,594, that the idea of conducting the Field Survey through the agency of the Karnams had been definitely abandoned, I directed the Karnam to cease measuring, and sent the Sketches and Register to Captain Crewe that the regular Survey of the village might proceed. As the latter has not yet been completed, it is not now possible to compare the Karnam's areas with those of the Survey.

5. I forward herewith the Field Sketch and two Field Books, made by the Karnam for the first Khandam, together with a List of the Areas which have been calculated in my Office and entered in the Field Books in red ink. The areas of Nos. 78 and 115 being irregular, village sites must eventually be taken from the Map and cannot now be calculated.

6. The correctness of the Karnam's measurements as tested by comparison with the Survey areas, will hereafter be known; but independently of this point, I submit that the result of the experiment, as regards the time occupied and the rate of work performed, is not at all encouraging. There is no probability that the Karnams of a whole Taluq can be brought into such a state of training and discipline as to work steadily on, measuring a fair extent each day, till the village is completed. On the contrary, there is too much reason to fear that excuses and evasions, similar to those used in the above two villages, will be generally adopted if the survey by Karnam's agency is extended.

LIST of SURVEY AREAS of the first Khandam of the village of Kolanapalli in the Taluq of Undi, measured by the Karnam of that village.

No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.	No.	Acres.
1	4 81	30	5 95	59	0 66	88	1 5	117	... 10	146	2 69		
2	0 54	31	0 73	60	0 66	89	... 88	118	... 4	147	1 97		
3	4 53	32	4 8	61	1 86	90	3 41	119	... 12	148	... 78		
4	7 71	33	1 23	62	4 98	91	.. 74	120	... 6	149	1 37		
5	6 61	34	1 32	63	1 43	92	... 87	121	... 26	150	... 63		
6	2 13	35	1 1	64	0 45	93	... 14	122	2 31	151	1 72		
7	4 14	36	1 26	65	0 34	94	... 11	123	3 19	152	... 15		
8	4 52	37	6 54	66	0 11	95	... 44	124	... 41	153	1 93		
9	3 23	38	5 57	67	0 29	96	... 24	125	2 10	154	2 53		
10	2 95	39	6 22	68	0 23	97	... 30	126	... 35	155	... 81		
11	1 55	40	3 10	69	... 27	98	... 15	127	... 29	156	... 68		
12	4 61	41	1 36	70	... 32	99	... 14	128	1 11	157	1 94		
13	2 48	42	1 20	71	... 33	100	... 38	129	1 41	158	5 74		
14	5 20	43	4 95	72	... 14	101	... 16	130	1 46	159	... 25		
15	6 52	44	2 23	73	... 16	102	... 26	131	... 19	160	... 22		
16	0 16	45	1 6	74	... 13	103	... 2	132	1 48	161	2 14		
17	8 11	46	1 8	75	... 30	104	... 4	133	... 31	162	... 86		
18	7 12	47	5 43	76	... 6	105	... 60	134	... 12	163	4 52		
19	2 80	48	3 40	77	... 8	106	... 60	135	... 30	164	2 91		
20	2 50	49	0 95	78	...	107	... 3	136	.. 32	165	1 4		
21	1 86	50	0 29	79	... 12	108	... 6	137	... 19	166	... 95		
22	3 0	51	4 71	80	... 38	109	... 2	138	... 35	167	... 97		
23	3 35	52	4 32	81	... 84	110	... 5	139	1 72	168	1 31		
24	6 28	53	0 50	82	... 22	111	... 5	140	... 10	169	1 59		
25	0 22	54	3 79	83	... 12	112	... 5	141	... 23	170	2 10		
26	0 74	55	1 99	84	... 59	113	... 13	142	... 7	171	4 12		
27	4 37	56	1 96	85	... 63	114	... 20	143	... 38	172	... 39		
28	0 52	57	1 41	86	... 66	115	...	144	... 13				
29	7 7	58	1 64	87	3 95	116	... 10	145	... 41	.....	291	26	

YELESWARAM,
29th March 1860.

(Signed) R. E. MASTER,
Deputy Director Revenue Settlement.

ENC. 2.

From R. E. MASTER, Esq., Deputy Director of Revenue Settlement,
To H. NEWILL, Esq., Director of Revenue Settlement,
dated Rajahmundry 17th April 1860, No. 33.

In continuation of my letter of the 29th ultimo, No. 29, I have the honor to forward four original Field Books made by the Karnam of Deva in the Mogaltur Taluq, comprising the Survey of the three Kandams of that village. I also forward a List showing the comparison of the actual Survey areas with the Karnam's areas, and I annex copy of a letter from Captain Crewe explanatory of the same. It will be observed that although in very many cases the Karnam's areas correspond pretty nearly with those of the survey, very serious errors have been made in the former, which would have rendered their adoption, as the basis on which to calculate the Settlement accounts, quite impracticable. I have already in my previous letter given the particulars of the number of days occupied by the Karnam in the Survey, and the rate of work.

2. No field Map was made by the Deva Karnam of the area which he surveyed.

—

From CAPTAIN W. CREWE, Deputy Superintendent, Revenue Survey,
To R. E. MASTER, Esq., Deputy Director, Revenue Settlement,
dated Narsapuram, 6th April 1860, No. 107.

I have the honor to inform you that on the receipt of your letter, No. 81, of 28th ultimo, I sent for the Deva Karnam, who has never presented himself at my Office since he left you at Marteru in or about December last, since which period the Field Books and Lists connected with his Survey of the village have been in his possession.

2. Owing to the numbers of the fields and pluses being entered in these Field Books in an incorrect manner, a very large number of important errors occurred when the areas were originally taken from them. The List containing the Field areas both by the Survey and Karnam's measurements has been examined and corrected in my Office. An inspection of it will enable you to judge of the quality of his work.

3. The Karnam has had the advantage of comparing his areas with the Survey Records; still the measurement and areas in his books appear to be his own. The Survey areas of three fields only, which he was unable to measure, have been taken from the Survey Records.

4. In almost every village there are a few numbers that Amins are unable to measure. The want of the areas of these renders it impracticable to make a correct comparison between the total Khushra and traverse areas.

5. As requested by you, I have directed the Karnam to proceed and join you at Kottapalli as early as practicable with his records.

6. I beg to enclose a Memorandum of two more errata in the Field Areas of Deva furnished by me.

———

Exd. J. Wright.

IN CON., 5TH JUNE 1860, No. 2,663.

REPORT on the additional Survey party sanctioned in G. O. 28th February 1859, for the surveyed Taluks of South Arcot and Trichinopoly.

2. The small extra establishment for the detailed measurement of waste lands in the surveyed tracts of South Arcot and Trichinopoly, and bringing up the survey records to the pros-
No. 257. pective state of agricultural operations, was sanctioned in Proceedings of Government, dated
No. 248. 28th February 1859, and the Order of Government communicated by the Director of Revenue Settlement in his Proceedings, dated 15th March 1859.

2. The party was at once organized, and has been at work since the beginning of April.

3. The alterations and additions to the maps of the villages of the Cuddalore, Chedambram, and Manargudi Taluqs have been completed. They in general consisted of the conversion of small patches of dry cultivation to wet and of waste land brought under cultivation. In the survey records the chief business has been to deduct the area of roads and channels, included in cultivated field, and the cultivations have occupied much time.

Cuddalore	14
Chedambaram....	146
Manargudi....	197
Total Rs.	337

4. The total number of villages of the three Taluqs above-mentioned in which corrections have been made is 357.

5. The cost at which this has been effected is small, amounting in the aggregate to Rupees 1,679-6-2.

	Rs. A. P.
From 1st April 1859 to 31st December 1859.	1,184 2 11
From 1st January to 30th April 1860...	495 3 3
Total	1,679 6 2

6. It has been found that the Superintendence in the additional party is insufficient, and after some months the Draughtsmen were recalled to the office of the Deputy Superintendent, in order to expedite the insertion of corrections in the maps. A Deputy Surveyor has also been detached from Captain Hessey's party to exercise supervision over the men employed in the field.

7. I am therefore desirous of obtaining permission to re-distribute the grant of Rupees 213 to meet the imperfections of the establishment originally proposed, as follows :—

At present sanctioned.	Rs.	Proposed scale.	Rs.
1 Draughtsman...	28	1 Deputy Surveyor...	48
2 do. @ 15...	30	1 Draughtsman...	25
4 do. @ 10...	40	1 do.	10
3 Amins @ 14...	42	1 Computer...	20
3 Goomastahs @ 7...	21	Office Goomastah...	10
1 Peon...	5	3 Amins @ 17...	51
1 Moochee...	5	3 Goomastahs @ 8...	24
	171	1 Moochee..	5
Measurement allowance	42	4 Peons @ 5...	20
	213		213

N. B.—No measurement allowance

Additional.	Rs.
2 Aimns...	34
2 Goomastahs.	16
2 Peons.	10
1 Draughtsman.	10
1 Office Goomastah...	10
	80
Original Grant...	213
Total Rs. ...	293

8. Until the arrears of correction in the Trichinopoly District are completed, I would advise the entertainment of 2 Amins, 2 Goomastahs and 2 Peons, 1 Draughtsman, and 1 Office Goomastah in addition to the above.

The Deputy Surveyor can overlook five Amins, and the enlarged party will be able to rectify all omissions, &c., in the maps of the Udiarpolliem Taluq in about three months.

10. Statements of work and expenditure for each month are appended.

ABSTRACT.—Statement of work done by the extra survey party and the expenditure of the sum from April to December 1859.

	Chedumbaram.	Cuddalore.	Total.
Re-surveyed Villages.			
Number of villages...	...	3	3
Number of cawnies...	...	996	996
Villages corrected in fields...	322	13	335
Do. do. in maps...	240	8	248
Villages corrected in accounts...	195	11	206
Do. prepared in the form given by the Deputy Director..	188	7	195
Village accounts sent to the Deputy Director's office... ...	191	11	202
Expenditure...	...	...	Rs.1,184-2-11

MADRAS,
29th May 1860.

(Signed) F. J. B. PRIESTLEY,
Superintendent of Revenue Survey.

No. 561.

Forwarded to Board of Revenue in continuation of the Survey Report for 1859. The changes in paragraphs 6 and 7, now proposed after experience are recommended for the sanction of Government.

MADRAS,
4th June 1860.

(Signed) H. NEWILL,
Director Revenue Settlement.

IN CON., 23RD JUNE 1860, No. 3,016.

From CAPTAIN F. J. B. PRIESTLEY, Superintendent Revenue Survey,
dated Madras, 22nd June 1860, No. 527.

I have the honor to acknowledge the receipt of your Official Memorandum dated 20th June 1860, accompanying a copy of the report of the Director Revenue Settlement for the past year.

2. In compliance with the intimation contained in your communication, I lose no time in forwarding a few explanatory remarks on some points dwelt upon in the report with a copy of which I had not previously been provided.

3. I take the opportunity of drawing attention to the subject touched on in paragraphs 4 to 7 with a view to being informed whether, in the opinion of the Board, any evil consequences are likely to ensue from my being furnished with all documents relating to proposals for changes in the department, or whether on the contrary advantage might not be derived in some instances by giving me the opportunity of stating my views on the matter in question.

ENC. 1.

EXPLANATORY REMARKS ON MR. NEWILL'S REPORT FOR 1859.

Mr. Newill must have been aware that the preparation of maps and records was confined principally to the recess or monsoon months devoted to office work.

Mr. Newill's Report, para. 30. He has also been kept minutely informed of the progress of the Survey by monthly reports drawn up in forms provided by himself. That each Survey party was to complete the full estimated amount of work the first year could hardly have been expected by him, but if even such had been his hope, my letter, in answer to a call from Government in

7th September, No. 752, para. 1. Proceedings 26th August 1859, No. 1,146, must have set him right

Appended to Annual Report. on this head. My representations in a letter dated 8th December 1859, must also have shown him that the demarcation was answerable in part for the small out-turn of the Survey.

2. Mr. Newill has stated the exact extent of land measured as *fields* in the Godaveri and Krishna Districts during the season of 1859. The total area of land surveyed since the commencement in the former is 558-2-4 square miles,

367 square miles.
263 " "
*Exclusive of lunkahs.

of which 405* have been measured in detail, in the latter it amounts to 294 square miles in all. The field areas of the villages in the Mogultoor and Tantaku Taluqs, as per margin, had been calculated by the end of 1859; also in the Krishna District the field areas of the whole of the Gudiwada Taluq were ready by the same date, though all were not handed over.

Mogultoor....70 all.
Tannaku.....20
Relanghy.....9
Gudiwad....103 all.

3. It is scarcely fair to speak of these Northern parties as having been at work one year and a half and the other a year. In my Report for 1858, it is distinctly stated, that

Para. 30. by October of that year, the Rajahmundri (Godaveri) party was "completed

Para. 112. "to about half its number." The strength of the Masulipatam (Krishna) party at the beginning of April 1859 is given in paragraph 2 of my report on that district for the past year.

Computers and Draughtsmen	16
Surveyors, Amins and Gumashtahs	89

Para. 52.

Dated 25th March 1859.

4. Since forwarding my general Annual Report to the Director Revenue Settlement, for transmission to the Board of Revenue, I have been permitted the temporary use of a copy of the Report of the Director Revenue Settlement for the year 1858, which I had not before had an opportunity of perusing. I have not yet been favored with a copy of the Review of my Report alluded to in the Proceedings Board of Revenue 4th August 1859.

Para. 67.

Para. 113, 19th February 1859.

5. In it I find that the subject of demarcation in connection with the Survey department had been brought before Government at the beginning of 1859.

6. Had I been in possession of the arguments used in the letter referred to and the opinion of Government thereon, or indeed had I been aware of the subject having been already discussed, the views expressed in the Memorandum on demarcation, appended to my last year's report, would have doubtless been to some extent modified.

November 16th, 1858, No. 1,530. March 10th, 1859, No. 290.

7. I may also mention that the G. O. Orders noted in the margin have not been supplied me, and I am not, therefore, fully informed on the subjects to which they refer.

8. I cannot of course speak with the same authority on the subject as Mr. Newill, but (as far as has come under my notice) with an establishment set aside for the purpose, no great difficulty would be met with either in demarcation or settlement of boundary disputes. This I think is the more evident when the actual agency employed for these duties is considered. Curnums, Vetties and Taluq Gumashtahs or Rayasums for the Tahsildar, his Sheristadar or a Peshcar seldom are themselves personally engaged in settling a dispute unless a European officer be on the spot or in the neighbourhood.

Para. 52.

9. The evil effects alluded to in the latter part of this paragraph were caused not by the demarcation establishment being attached to the Survey department, but by the absence of a demarcation establishment altogether. I see no reason why, if the present demarcation establishment possesses sufficient Revenue knowledge and experience, their working under a Survey officer should make any difference in that respect.

Para. 52.

10. The demarcation department, however, was bound to hand over all marks in a perfect state, and no Surveyor was permitted to commence the survey of a village without this being certain. The survey officer had the boundaries of a whole pergunnah adjusted beforehand, and was not bound to scatter his men over an unnecessarily large extent of country demarcated in the order best suited to the convenience of the classificators. As to the proposal contained in the latter part of paragraph 53, I beg to refer to Major Thuillier's letter given in Selections No. LIII* and Selections No. IX,† to the Orders of Government dated 23rd November 1859, and to a letter addressed by me to Mr. Newill on the 4th instant (appended).

Para. 53.

See also paras. 61, 62.

* Page 216.
†Pages 21 and 22. No. 1,594. No. 453.

Para. 54.

11. One reason for my opinion that the demarcation would work better under the Survey than under the Settlement, is that the Survey requires no additional European supervision; both the Demarcation and Settlement do. If the demarcation were given over to an extra European Assistant of the Survey, that officer would devote the *whole* of his time and energies to demarcation; if to an extra Assistant of the Settlement Department a part only of his duties would be the supervision of demarcation because European superintendence is also required in the classification. The demarcation consequently would be less effectively looked after.

Para. 54.

12. It must not be thought, however, that I am anxious that the Survey should undertake what Mr. Newill justly terms "the laborious work of demarcation." What I think absolutely necessary, however, is that demarcation should be placed under a European officer to whom *no other* duty should be given. He will find *ample* employment in looking after demarcation only at present by combining classification and demarcation, the former doubtless is largely benefitted, and if additional European assistance is given will gain still more. The latter, however, derives no advantage from the present system and will only enjoy a share of the proposed European supervision. In fact, as far as I can see, the object aimed at is to obtain European superintendence for the Settlement department at the expense of the Demarcation. This re-acts on the Survey, and hence my objection to the system.

Para. 55.

13. When it was evident (from the Return of work submitted monthly), that the operation of Demarcation was fast out-stripping that of Survey, it is not apparent that any advantage was to be derived from employing "the greater part of the strength of the classification as well as of the demarcation establishment" in demarcation, more especially as the establishment under a Deputy Director is larger than he can personally supervise. To the Survey it has been so far injurious that it has, from a comparison of the work performed by it and by the demarcation, allowed an opinion to be formed unfavorable to the former.

Paras. 56 and 57.

14. It would give a fairer view of the relative progress of the two departments if the work performed during the year 1859 were taken, and the figures would then stand as follows for Godaveri and Krishna.

1859.

Parties.	Surveyed.	Demarcated.	Difference.
Godaveri.....	488	1,099	711
Krishna.....	294	1,060	766
Total...	782	2,159	1,477

Settlement Report for 1858, page 9.

(Of the 303 square miles demarcated in 1858, I have deducted two-thirds from the Godaveri, and one-third from the Krishna Demarcation party.)

15. The Trichinopoly and Salem districts are excluded as the Survey has now overtaken the Demarcation.

(Signed) F. J. B. PRIESTLEY, CAPTAIN,
Superintendent Revenue Survey.

Extract of letter from the Superintendent Revenue Survey, referred to in paragraph 1.

No. 1,146.

I have the honor to acknowledge the receipt of a copy of the Proceedings of Government, dated 26th August 1859, and in obedience to the call contained in paragraph 2 of the order, beg to state that I had hoped it was fully understood that the area which I estimated would be accomplished yearly by a Survey party was the maximum to be attained after the lapse of some considerable time when it would be composed entirely of experienced men, and when also the full amount sanctioned would be expended.

ENC. 2.

ABSTRACT.—Copy of a letter from Superintendent Revenue Survey to Director Revenue Settlement, dated Madras, 4th June 1860, No. 453.

ENC. 3.

ABSTRACT.—Copy of a letter from the Superintendent Revenue Survey to the Director Revenue Settlement, dated Narsapur, 8th December 1859, No. 973.

Exd. J. Tulloch.

Appendix A.

Statement shewing the extent of Assessment and Demarcation work performed by the several Settlement parties and the expenditure incurred thereon for the year 1859.

Talukas	Number of Villages comprised in each Taluk	Number of Villages in which Survey was completed	Number of Villages in which Survey was commenced	Extent of Land measured in Square miles	Extent of Land measured in Acres	Charges on account of Survey per Square mile on the Square miles measured	Charges on account of Survey per Square mile on the Square miles measured
						Rs. a p	Rs. a p
	Godavari party						
Nagulloor	2	"	"	9.62	979	" " "	" " "
Samilla	12	"	"	12.77	2013	" " "	" " "
Undi	88	"	"	184.77	7455	" " "	" " "
Palacoll	11	"	"	28.51	1288	" " "	" " "
Bhimavaram Paraganna	37	"	"	79.81	3217	" " "	" " "
Kaikaram	18	"	"	128.68	6345	" " "	" " "
Palli	35	"	"	75.08	4051	" " "	" " "
Pentapad	33	1	"	110.22	5671	" " "	" " "
Amalapur	82	1	"	185.77	7201	" " "	" " "
Kotaramachandrapur	49	5	"	102.53	3852	" " "	" " "
Kapavaram	18	19	"	68.73	2814	" " "	" " "
Bikavole	2	18	"	27.07	936	" " "	" " "
Total	418	44	"	1028.50	44832	" " "	42 13 0
Nagulloor	5	"	"	10.00	1503	" " "	" " "
Samilla	34	"	"	87.72	2850	" " "	" " "
Undi	88	"	"	117.10	3432	" " "	" " "
Palacoll	39	"	"	70.85	2717	" " "	" " "
Bhimavaram	34	"	"	55.11	2120	" " "	" " "
Bellarla Paraganna	"	"	"	1.92	60	" " "	" " "
Nagaram	29	1	"	55.35	1812	" " "	" " "
Palli	17	"	"	32.—	1110	" " "	" " "
Pentapad	70	1	"	131.74	6669	" " "	" " "
Amalapur	49	5	"	90.10	3080	" " "	" " "
Kotaramachandrapur	1	"	"	1.07	39	" " "	" " "
Kapavaram	2	18	"	16.95	692	" " "	" " "
Bikavole							
Total	397	35	"	712.61	28594	" " "	100 2

Classification

21 Sept 60

4 350-721

Taluks	Number of villages in the Taluk	Number of villages in which Tobacco is grown	Number of Tobacco growers	Extent of land in which Tobacco is grown	Estimated produce of the Tobacco grown	Assessment on the Tobacco grown			Assessment on the land in which Tobacco is grown		
					Rs.	Rs.	a.	p.	Rs.	a.	p.
Krishna party.											
Gudewada	12	"	62.72	28.19	3384	"	"	"	"	"	"
Bander	19	"	97.29	93.53	3627	"	"	"	"	"	"
Divi	23	"	271.78	114.80	6329	"	"	"	"	"	"
Pedana	38	"	65.26	51.77	2701	"	"	"	"	"	"
Bezawada	07	0	193.76	112.74	5393	"	"	"	"	"	"
Kikalur	88	2	197.88	189.38	5817	"	"	"	"	"	"
Nandigama	80	9	296.92	228.22	7547	"	"	"	"	"	"
Nayanapetta	15	1	92.16	17.79	1669	"	"	"	"	"	"
Elur	18	"	101.34	83.38	3359	"	"	"	"	"	"
Goondegolla	"	1	31.09	3.62	"	"	"	"	"	"	"
Totals	120	25	1396.39	986.43	39586	28	5	5	10	2	1
Gudewada	104	"	192.74	166.78	7928	"	"	"	"	"	"
Bander	19	"	69.21	65.14	3353	"	"	"	"	"	"
Divi	23	"	92.10	88.46	4243	"	"	"	"	"	"
Pedana	38	"	37.74	36.13	1921	"	"	"	"	"	"
Bezawada	20	11	90.52	77.87	2763	"	"	"	"	"	"
Kikalur	67	2	76.31	70.50	2936	"	"	"	"	"	"
Nandigama	63	8	187.59	171.30	5491	"	"	"	"	"	"
Nayanapetta	8	1	25.57	21.20	513	"	"	"	"	"	"
Totals	374	22	772.08	697.28	28951	07	8	"	41	3	4

Taluks	Number of villages in the Taluk	Number of villages in which Tobacco is grown	Number of Tobacco growers	Extent of land in which Tobacco is grown	Estimated produce of the Tobacco grown	Assessment on the Tobacco grown			Assessment on the land in which Tobacco is grown		
					Rs.	Rs.	a.	p.	Rs.	a.	p.
Trichinopoly and Salem parties.											
Coimbatore Trichinopoly: Volcondapuram	2	"	"	29.15	204	"	"	"	"	"	"
Toriyoor	5	"	"	33.70	496	"	"	"	"	"	"
Satyadi	219	"	"	204.20	9496	"	"	"	"	"	"
Musiri	42	"	"	122.88	4216	"	"	"	"	"	"
Totals	268	"		390.13	14412				30	11	11
Salem: Attur	98	"		213.03	5228	"	"	"	"	"	"
Namakkal	57	"		114.33	5581	"	"	"	"	"	"
Paramatti	43	"		103.99	2530	"	"	"	"	"	"
Rasipuram	54	"		67.21	1199	"	"	"	"	"	"
Totals	252	"		537.36	14845				20	10	0
Grand Totals	520	"		967.13	29256				30	15	11
Coimbatore Trichinopoly: Mannargudi	"	"	"	"	1338	"	"	"	"	"	"
Cuddalur	36	"	37.24	11.34	3252	"	"	"	"	"	"
Chillumpram	2	"	6.81	3.10	1550	"	"	"	"	"	"
Udiarpolliam	17	"	18.52	11.34	5229	"	"	"	"	"	"
Ariyalur	148	"	210.02	162.04	5662	"	"	"	"	"	"
Volcondapuram	129	"	142.66	239.32	6090	"	"	"	"	"	"
Toraiyur	120	"	300.05	212.24	8093	"	"	"	"	"	"
Satyadi	55	"	124.12	100.34	1322	"	"	"	"	"	"
Musiri	21	"	91.50	70.26	1619	"	"	"	"	"	"
Totals	528	"	1304.96	872.58	31306	23	15	10	35	11	5
Salem: Attur	98	"	305.11	211.43	5104	"	"	"	"	"	"
Namakkal	57	"	145.16	124.83	3224	"	"	"	"	"	"
Paramatti	18	"	104.58	95.63	2272	"	"	"	"	"	"
Rasipuram	54	"	79.97	53.29	2457	"	"	"	"	"	"
Totals	252	"	693.12	487.18	13107	18	14	7	26	14	5
Grand Totals	780	"	1998.07	1359.76	44413				62	8	6

Taluk	Number of villages or towns in the Taluk	Number of villages or towns in the Survey	Number of villages or towns in the Settlement	Number of villages or towns in the Survey & Settlement	Extent	Average Assessment per Acre			Average Assessment per Square Mile		
Vellerund	Whole not surveyed				780 5	Work not yet commenced in this Taluk					
Grand Total	2909	126	—	574 41	223 439	-	-	-	38	11	0

Revenue Settlements Office
Madras 25th April 1860.

H Meade
Director of Revenue Settlements

N.B. The areas given in this return are only approximate, and will probably be found much less than the true areas to be ascertained by Survey - The average Assessment per Acre is therefore only approximate and will probably be found much lower than the rates here given -

91

Sd/- 1850 & 1860
Sd/- Law 24 April

Rev. Dept.

21

No. 1673

...ceedings of the Madras Government

Under date the 21st August 1860.

...forwarding

...Board

19

...ing in the

Departments.

...printed — 17

...en on the 17th August.

...2 are above 8 days.

...must have been

...are in hand

...tment.

...inted — 4

...n on the 4th Sept...

...ten have been

...e in hand and

...two.

...ps April

...enterpasting

The

(No. 3247)

...rings the

...review the

...Revenue

...roceedings Dept to

...1859. These

...were

...number

...at

...year, on

double the number ~~in operation~~ during 1858; for

...long to Mr Ballard's party

...is said to have been organ...

...in 1858, it was not fairly a...

...ope...

17

...Inconsistencies

...Statements

...Madras Letter Dated

...Nos 74 are

...Vacant 72, 73 &

...must justify

...The disastrous failure of Post...

...Issue satisfied

...to avoid this same cases

...subsequent to the

...departure from the

...Country of the

...Collector, the Second

...Issue the said Letter

...Dated

No 1

Enclosure in a letter from the Board of Revenue Settlement to the Secretary to the Board of Revenue dated 23rd April 1860. No. 12. 367.

...Statement

...Appendix A

...Rs 1506 80

...Statement showing the Extent

...of Cultivation and Increase

...thereof effected by the

...Survey Department in each

...of the Collectorates of Salem and

...the Northern Division of Coimbatore

...for the year 1859

...Salem 1850 & 1860

...Salem 26 April.

Rev. Dept.

21

No. 1673

...ceedings of the Madras Government
Under date the 21st August 1860.

...lowing

Board

19

...ing in the
Departments.

...ent.

...printed — 17

...new on the 17th August
2 are above 8 days.
...quet have been

...t are in hand

...ntment.

...inted — 4
...in on the 1st Sept.
...ten have been

...re in hand and
...two.

...ers appeal

...in caterpatting.
The

18

...ions in these remarks
...s to the place for
...Master's & the Head quarters of the District
the Head quarters of the Divisional Settlement & the
Superintendent of Survey &
When work is being carried
on in two widely separated
places, it would be better in
my opinion that the Head
Quarters should be at the
scene of the most important
operations.

(Sd) W. Elliot

No. 1

Enclosure in a letter from
of Revenue Settlement &
...tary to the Board of Reve
23rd April 1860, No. 364.

...of the Ka-ts. should
...seen personally by the
...Head of the Province, and
...I should not desire any
...the decision of this point
...a question to be settled
...the Taluqs except
...through the Head
...Board of Revenue.

W. Elliot
10 Feb.
...to

...ings the
...evenue
...ency Dept.
...59. The
...were
...ertion at
...last
...year, p

...double the number since
...operations during 1858; for

...though Mr. Ballard's party
...is said to have been organ
...in 1858, it was not fairly

No 1

Enclosure in a letter
of Revenue Settlement
-tary to the Board of
23d April 1860. No. 36

Submitted
by the Hon'ble
the President
Dated 4th Sept 1860

Regarding the
Head Quarters of
the Director of
Revenue & Marine
Council

Mem. Dept

No. 1673

Proceedings of the Madras Government
Under date the 21st August 1860.

Concurring
Board

21

19

Memo of the state of printing in the
Revenue and Public Works Departments.

Revenue Department.

No of Drafts remaining to be printed — 17

The longest on hand was given out the 17th August
1860 and of the remaining 2 are above 8 days.

The Proceedings upto 28th August have been
printed.

The Contents upto 10th August are in hand
and will be ready to day.

Public Works Department.

No of Drafts remaining to be printed — 4

The longest in hand was given out the 4th Sept.

The Proceedings upto 4th September have been
printed.

The Contents upto 10th August are in hand and
will be ready in a day or two.

The business in the Press office
(Revenue branch) does not get on satisfactorily.
The

(to No. 3247)

double the number
operations during 1858; for
Mongo Mr Ballard's party
is said to have been organized
in 1858, it was not fairly

No 1

Enclosure in a letter
of Revenue settlemen
tary to the Board of
23rd April 1860. No. 3

The delay in printing the Contents is
chiefly owing to the filling up of
the dates of the Premium certificates
in the Office.

The Bill of Exchange should have
been always sent Home
by the second Steamer of the following
month. The Bills drawn subsequent
to September will be sent Home in
the Debentures. The last Bills
will be sent as soon as the Contents

Rev. Dept

No. 1673

21

Proceedings of the Madras Government
Under date the 21st August 1860.

Read the following Report
from the Board

(860 No. 3247)

20

are ready -

Wm Rayner
Registrar

6th September 1860.

during the
review the
Revenue
Survey Dept
1859. The
were
parties at
Court of
Year for

double the number
operations during 1858; for
though Mr Ballard's party
is said to have been organi
in 1858, it was not fairly a

No 1

Enclosure in a letter
of Revenue Settlement
diary to the Board of
23d April 1860 No. 3

Rev. Dept.

21

No. 1673

Proceedings of the Madras Government
Under date the 21st August 1860.

Read the following
Proceedings of the Board
of Revenue.

Submitting with the Board's remarks letters from the Director of Revenue Settlement; reporting on the operations of the Settlement Department for the year 1859 and forwarding a report from the Superintendent of Revenue Survey on those of the Survey Department for the same period.

(Here under 11th July 1860 No. 3247)

In these Proceedings the Board of Revenue review the operations of the Revenue Settlement and Survey Depts during the year 1859. ~~There~~ were ~~have been~~ Four parties at work during the whole or parts of the year being double the number ~~of~~ employed during 1858; for though Mr Ballard's party is said to have been organized in 1858, it was not fairly at

work ended after his arrival
at Masulipatam at the com-
mencement of 1859. As regards
the fourth or Wynaad party,
actual work was only com-
menced late on in the year
under consideration, and
upon various unavoidable
causes no very great tangible
results are forthcoming of
actual progress made.

2. The Board's Proceedings enter
fully and at great length into the various
subjects comprized in the reports
from the Director of Settlement,
and the Superintendent of Survey
respectively, but it is only ne-
cessary for the Government to record
briefly their remarks upon
some of the principal points
under consideration, and to
pass such orders as may seem
required.

3. The Governor in Council
[illegible]

made in part have come
to hand from Mr. Nevill in
doubtless justified as has
been already acknowledged
on former occasions in con-
sidering the Karaiyans statements of the
contents of villages, to be much
below the reality, but as the
Board truly remark, that more certainty
as to the rate of the rent ought to be
attainable. The Government
therefore have no will not object
to the preparation of such a com-
parative statement as the
Board propose, but they must
express a doubt whether
the same time observe
that it is not their opinion
that an average so arrived
at will be of much use.
They believe that the measure in
present force in any village is always con-
siderable in any two villages
at a time, and if so it will be insufficient to
is also very constant, and
ascertain its value by actual trial in
often as for many villages
each village as undertaken
together, so that its contents

* Than the vague estimates now put
forward from year to year.

may

~~may be ascertained in every~~
~~village as much as can be taken~~. The
course pointed out in the
last sentence of the para
(6) under consideration
is correct, and should be
carried into effect without
delay for such villages as
have already completed.

4 ~~Co-operation seems~~
necessary about the classi-
fication ~~which~~ exists in the two
Northern parties hardly
reached ½ half of that per-
formed in Vizagapatam
and Salem. Several reasons
are put forward. In the
Godavery only half the
proper strength of Classifiers
was entertained during the
first quarter of the year; and
much work belonging to the
previous year had to be done
over again, from its being
~~[illegible]~~ Zemindary,
and

and this of course could not be
entered in the Accounts. In the
Krishna party no classifiers
were entertained to after the
lapse of some months, and
the full strength of the
party was only gradually
completed. The Board notice
(p. 8) that the proportion of the
expense charged to this section
of the work in the Krishna District
~~is~~ is greater than in the Godavery
~~belongs to the greater~~ area
classified ~~was larger in the latter~~
~~than in the Krishna District~~.
but if the reason is that during
a portion of the time a large
proportion of the whole
"salaries" was employed for
demarcation, then the amount
entered as ~~being~~ the cost of
demarcation ~~of the year~~
~~in~~ in the Krishna District
~~viz Rs 29,936~~ does not represent
the whole cost of the work. If

Vide Statement
para 3 of Bd's Pro.

Board

~~But it is clearly the case~~ ~~that in the present stage of~~ ~~operations it is only deleterious~~ attempt to ~~to buy and distribute the cost~~ ~~over the area, the latter being~~ ~~so vague and uncertain and~~ ~~it is all the more requisite~~ ~~therefore that no more~~ ~~certain data should be ob.~~ ~~tained, as pointed out by the~~ ~~Board. The Director will bear~~ ~~this particularly in mind.~~

5.— It is observed that the Board have already been requested to report upon a measure proposed by Mr. Stewill for increasing the European agency in his Department.

6.— The Government are glad to perceive that the testing of the ~~work~~ classification has been ~~properly~~ attended to. The classification is a most important element

and the more the sympathies of the ryots are enlisted now, in the obtaining correct estimates of the qualities of soils, the greater will be their interest hereafter, and the greater the probability of their cordial acquiescence in the settlement itself.

7.— The permanent preservation of boundary marks is a matter of much difficulty. The report by the Field marks of the Godavery delta (paras 36 of Mr. Stewill's report) is more favorable than might have been expected. But it is evident that the marks are not of a nature or in a condition to be permanent without much care. The Govt. agree with the Board in the condition appended to the first of Mr. Stewill's "axioms", viz, that relating to the preservation of boundary marks by Collectors.— But as to the second of those "axioms" the Govt. doubt the possibility as well as the expediency

of refusing to create survey fields of waste, when extending to twenty acres. It should never be forgotten that the survey is a means and not an end; and that arbitrary rules for the convenience of the survey, but tending to hinder the free occupation or encouragement of land, must be an evil.

8.— In these paras the Board discuss the plan now in operation, introduced early last year, which combines demarcation and classification. The Director of Revenue Settlement & the Superintendent of the survey are at issue on the subject. The former defends and upholds the existing arrangement, though admitting defects in it; the latter considers that it has not worked well, and that it ought to be changed. The Bd expresses agreement in opinion with Captain Priestley. The Govt are of opinion that Capt Priestley has stated some solid practical objections to the present plan of proceeding, which have not been satisfactorily met, but the subject has not been fully considered, and an annual report is not a proper place for discussing such a question. The Board will be requested to take it up separately & report to Govt upon it, and, in the opinion of the Governor in Council this will be best done after a personal conference with both Mr Nevill and Capt Priestley.

9.— Some modification seems to be necessary, as the Bd point out, in the rule alluded to in para 27, regarding the village boundary paths, so that its actual meaning (as now settled) may be more exactly expressed.

10 In paras 29 to 34 the Board review the results of the measurement by the Karnams of one village & a portion of another

Bd Pro: paras 25 & 26 & 35 to 40

in the Godavery Distt. The work was undertaken at the Board's direction, & with a view to test the practicability of a scheme for leasing the measurements of the village subdivisions generally to the Karnams. The Govt. have already on a full consideration of the matter, decided against the proposed scheme, and the result of the experiment now reported confirms the propriety of that decision.

× vide para 28 of 15th P.C. of 4th Aug 1859 No 3020

× Mr. Fs 25/59 No 1594

11. — In paras 45 et seq. the Board review the operations of the survey Department. The progress of the Trichinopoly party as sketched in paras 45 to 49 is satisfactory. It must be expected that the cost of the work hitherto turned out should be above the estimate.

Enclosure 1 to letter of 22nd June 1860 No 527

Paras 54–60 of the Board's Pro:

The longer a survey has been established in any district, the more nearly the work accomplished approximates, both as to quantity and cost, to the original Estimate. The Superintendent justly remarks that the "maximum was "to be attained after the "lapse of some considerable "time" when the party would be composed entirely of "experienced men" and the full amount sanctioned would be expended. The results for the year in the Godavery and Kristna Districts bear out these remarks, and the Government confidently look forward to continued improvement in the current year.

12. — The changes and additions to Establishments noticed in paragraph 52 and

and 53 of the Board's Proceed-
-ings should be applied for
separately. An annual Re-
-port is not the place for
such applications.

13. — The Board's remarks
in Para 61 as to the cost of
the lithographic establish-
-ment should receive at-
-tention from Capt. Priest-
-ley. The facts connected with
the survey, noticed in paras
63 and 64, are highly creditable
to the Superintendent.

14 Adverting to Para 66,
the Government observe
that Section XXX of Act
XXVIII of 1860 empowers the
Governor in Council to
invest the Subordinates of
both the Settlement and the
Survey Departments with any
portion of the powers con-
-ferred under the act. The

Board

~~Board have been requested~~
~~to report what officer is~~
~~each Deputation should be~~
~~empowered.~~ This authority
given to the survey officers
will remove the first of the
hindrances to the survey
mentioned by Capt. Priestley.

15. — The Government fully
agree in the opinion ex-
-pressed by the Board in
Para 67 as to the propriety
of the Survey Superintendent
being furnished with letters
and orders of importance
relating to the Settlement
Department. Henceforward,
to avoid delay, copies of
such letters and orders is-
-suing from the Govern-
-ment office will be sent
direct to Capt. Priestley.

16. — The Government are
not aware what is referred
to by the Board in Para 75,

or

or what application from Mr. Newill on the subject in question is unreplied to.

11th. — In closing these observations, the Governor in Council must remark that Mr. Newill has mistaken the proper scope and intention of an annual Report. Such a document is designed to be a brief narrative of the transactions of the year, with Statements of expenditure, work accomplished, and other results. Discussions of principles, or of past or projected changes of system or practice, are out of place in such a paper; they encumber and delay it, while they themselves cannot be dealt with to advantage. This has properly been pointed out by the Board in Para 69. It is no wonder at all that so lengthy a paper as Mr. Newill's Report for 1859 should not be ready till near the end of April, or that the Board should take three months to revise it. A real and proper annual Report, on the contrary, might be ready by the end of January, and be before Government by the end of February. Mr. Newill will be directed to bear these remarks in mind in preparing his Report for the current year.

12 Copies - Board of Rev: Dispt 22
13 " Director of Rev: Settlement
4 " Supt of Rev: Survey

tials of
ender.

Copy of a Letter to the Sec.
Dy 21st January 1861 No. 7

906/1690
23-1-92

Revenue 1st Departt.
Proc: of Govt for Septr.

No. 1673.

956-69

Proc: of the Madras Govt.
Dy 21st Septr 1860.

Passing observations on
letters on the Board's review
the operations of the Revenue
Settlement and Survey Depart
during the year 1859.

No. 380 & 381.