M.R.O. 14—10,000—21-4-22.

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No. 624 — Press / ~~Mis.~~

Feb. 347

Dated 20 . 3 . 1862

Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department, 20th March 1862.

No. 346. Read the following Proceedings of the Board of Revenue, dated 18th May 1861 No. 2,549 :—

Read letter from the Director of Revenue Settlement, dated 7th March 1861, No. 372, reporting on the operations of the Settlement and Survey Departments for the year 1860.

(In Cons. 8th March 1861, No. 1,459.)

Read also Memorandum from the same Officer, dated 3rd April 1861, No. 538, forwarding specimen maps, &c., referred to in the above reports.

(In Cons. 6th April 1861, My. No. 1,013.)

Read also No. 1,316, from Deputy Superintendent Revenue Survey.

Resolved that the letters above recorded, together with their enclosures, be submitted for the information of the Honorable the Governor in Council.

1. The operations of the Survey and Settlement Departments in 1859 were reported to Government with the Board's Proceedings, dated 14th July 1860, No. 3,247, and were disposed of in Government Order, dated 21st September 1860, No. 1,673, Revenue Department. The papers now submitted give the operations of 1860.

In Cons, 22nd September 1860, No. 4,760.

2. In their Proceedings, dated 14th July 1860, No. 3,247, paragraph 17, the Board alluded to the progress that had been made in fixing an assessment on the surveyed Táluqs of Chidambram and Manargoody in South Arcot. The subject then awaited the Orders of Government, which were passed on the 19th October 1860, No. 1,906, Revenue Department.

In Cons. 20th October 1860, R. D., No. 5,344.

The proposals regarding the new settlement were approved, and the task of giving them effect was committed to Mr. Newill himself; who now reports that the measure has been partially carried out, and that it has every prospect of success. The Government are aware that no immediate pecuniary advantage is expected from the proposed changes, but their effect will be to distribute the burden of the land tax in a ratio more proportionate to the capabilities of the soils than has hitherto obtained, and to lighten it on the whole, and give an impetus to the extension of cultivation.

3. During the past year the proposed settlement of the western Delta of the Godavery, containing about 900 square miles, has also been prepared on the principal of a fixed water-rate per acre for irrigation in addition to a separate assessment upon the land. A full and interesting report on this subject, prepared by the Deputy Director Mr. R. E. Master, was submitted to the Board by Mr. Newill on the 27th February last; and laid before Government on the 23rd April 1861, No. 2,110, for their final orders.

4. The above brief sketch exhibits the amount of work performed under the head of "Settlement" the final process of the important operations now in progress. The results attained under the earlier operations of demarcation, classification, and survey will next be noticed.

There have been four parties at work during the past year, viz., one in the Godavery District and Nellore, another in the Kistna District the third in Trichinopoly and Salem, and the fourth in Wainâd.

5. The Godavery party demarcated 897 square miles in that District, and 146 in Nellore, making an aggregate of 1,043 square miles. It also classified 995 square miles in the former District.

6. The Kistna party demarcated 1,400, and classified 1,600 square miles, the portions in detail of fields being 1025 and 1,235 square miles respectively.

7. The area operated upon by the Trichinopoly and Salem party has been about 1,800 and 2,000 square miles under the head of demarcation and classification respectively, of which about 1,500 square miles have been in detail of fields. Of this extent, about 300 square miles

belong to the Wainád party, a portion of which was temporarily transferred to Salem. The progress made by this party taken in connection with that of the Kistna party shows that the annual standard of 1,250 square miles of field work may be attained under proper management by each party, on the footing on which these existed preivous to their enlargement under the sanction of Government, dated the 17th October 1860, No. 1,899, and it warrants the expectation that under similar efficient control, the increased area now expected will be attained without difficulty.

In Cons. 19th October 1860, No. 5,328.

8. The outturn of the Wainád party has been but 114 square miles up to the close of last year; but this result is altogether exceptional. The party is not yet properly organized and trained, and has had many difficulties to contend against in respect of climate, scarcity of labor for setting up boundary marks, clearing off boundary lines, &c. The Board have no doubt that the operations of the present year will exhibit very different results.

9. The following Statement shows at one view the work done by each party, the total expenditure of the season including a proportional part of the cost of the Central Office, and the rate per square mile at which the several operations have been executed:—

Party.	Demarcation.				Classification.				Total cost for demarcation and classification.
	Villages completed.	Square miles.	Expenditure.	Cost per square mile.	Villages completed.	Square miles.	Expenditure.	Cost per square mile.	
				RS. A. P.				RS. A. P.	RS. A. P.
Godavery	234	897	33,220	37 0 7	334	995	34,117	33 4 10	71 5 5
Nellore	13	146	5,328	36 7 4	0	0	0	0 0 0	0 0 0
Kistna	387	1,402	37,496	26 12 0	482	1,593	36,885	23 2 5	49 14 5
Trichinopoly and Salem	743	1,787	32,409	18 2 2	956	2,016	44,890	22 4 4	40 6 6
Total	1,377	4,232	1,08,453	25 10 0	1,772	4,604	1,15,892	25 2 9	50 12 9
Wainád	6	114	47,263	413 11 3	0	0	0	0 0 0	0 0 0

Thus it appears that the entire expenditure of the year on account of the Settlement Department, was Rupees 2,71,608, and the total area demarcated and classified 8,950 square miles, giving an average of Rupees 30·3 for each operation upon the whole, or omitting the exceptional case of Wainád, an average of Rupees 25·4. The cost of both demarcation *and* classification amounts to Rupees 50-12-9 per square mile, a result which the Board are glad to observe is more favorable than that of any previous year.

	RS.
Demarcation	1,08,453
Classification	1,15,892
Demarcation in Wainád	47,263
Total	2,71,608

10. In paragraph 8 of his report, Mr. Newill remarks that some misunderstanding exists in regard to the cost of the settlement operations as compared with the original Estimate, and would seem to argue that the survey expenditure by being calculated upon areas in excess of those embraced by the settlement operations, is made to appear comparatively cheaper. On closer examination, however, it appears that he means no more than that the correct areas of the demarcated and classified tracts as shown by the survey traverses not being available to him at the conclusion of the former operations, he was obliged to have recourse to the revenue

accounts (after applying such corrections as were practicable) for ascertaining the areas of the work performed; and that these having been found to be less than the traverse areas, the cost as represented by him in former reports is in reality in excess of the actual cost. The Board have no doubt that Mr. Newill's conclusions are correct, but it would have been more satisfactory if the quantities by which the true areas were found to be in excess of the assumed areas, or the extent by which the real cost fell short of the reported charge, were distinctly shown by him. Appendix B does not contain this information, the results there given not being comparable with any other hitherto reported. Taking the aggregate of the eight Táluqs of the Godavery District for which the details are given, it appears that an area of 1,504 square miles was demarcated for Rupees 69,225, and classified for Rupees 45,218 making the average rate for both operations about 75½ Rupees, which is 7½ Rupees less than the cost of the year 1859, but 4 Rupees in excess of that of the past year, which the Board presume is also based upon the Revenue accounts. Thus it is evident that unless the areas to be compared are identical, no satisfactory conclusion can be drawn respecting the actual cost of the operations. The Board are, however, satisfied that a gradual reduction has been going on in this respect for the last two or three years.

	RS.	A.	P.
Demarcation	46	0	10
Classification	29	6	4
	75	7	2
Demarcation	42	15	6
Classification	40	2	0
	83	1	6

Board's Proceedings, 14th July 1860, No. 3,247—See paragraph 9.

11. In their Order dated 1st December 1860, No. 2,289, the Government called the attention of the Board to the cost at which the settlement operations were being carried on, and suggested that if no measures could be adopted to reduce it, the circumstance should be made known to the Government of India, and additional funds obtained for the future expenditure. The Board, in their letter dated 11th December 1860, No. 5,800, requested that further action in the matter might be deferred till the actual results of 1860 had been ascertained, and till Mr. Newill had gained a practical insight into the work of imposing the new rates of assessment in Munargudi and Chellumbram. These conditions being now fulfilled, Mr. Newill reports that there does not appear any necessity for applying to the Government of India for an increased rate of expenditure per square mile, as judging from past experience, it may be expected that the Establishment will *eventually* fulfil the work at the estimated cost, though there may be an additional charge for the preparation of the English and Vernacular Registers in duplicate of about 5 Rupees per square mile. The Board are not so sanguine in this expectation as Mr. Newill, but in consideration of the large reduction which has taken place in the average cost of the operations of last year, they would recommend that the consideration of the question be postponed for another year. They quite agree with Mr. Newill in regard to the settlement that after the first two or three Districts have been completed the work will become a matter of routine to be carried on more closely after the preliminary processes of survey and classification, and it may, therefore, be presumed that its cost will be considerably reduced.

In Cons. 1st December 1860, No. 6,261.

12. In paragraph 23, allusion is made to the manner in which it is proposed to treat the Shervaroy Hills for survey purposes; the Settlement on the coffee lands having already been determined by the Government fixing one Rupee per acre as their assessment. The chief points of the scheme are as follows:—

Proceedings of Government, No. 1,229, 13th in Cons. 14th September 1859, No. 4,596.

First.—To connect the isolated tracts of cultivation.

Second.—To survey the coffee plantations severally by properties.

Third.—To Survey the cultivated slopes or valleys in the fields or terraces into which they are now divided, and likewise all waste fields of the same kind.

Fourth.—To exclude from the operations of the survey, the rocky and barren parts unfit for cultivation.

Fifth.—To lay out in blocks of about 20 acres, for future occupation, slopes and valleys suited for *Coffee* cultivation; but lands fit for grain cultivation to be divided into smaller blocks according to circumstances. These arrangements appear to the Board judicious and well designed.

13. In the concluding paragraphs of his report, Mr. Newill notices the delay with which the survey areas and the lithographed maps are furnished to him, and the injurious effect this has upon the operations of the Settlement Department. The Board are aware of the difficulties with which the Survey Department has to contend, more especially in regard to the early preparation of the maps; but they trust that every effort will be made by Captain Priestley and his Deputies to furnish the survey areas as soon as it is possible to compute them. In regard to the lithographed maps, the Board think that the settlement operations ought not to be dependant upon them to any great extent, as their preparation is necessarily a work of time, and the demarcation sketches ought in combination with the survey areas to be sufficient for common practical purposes.

14. The subjoined Statement taken from Appendix C of Mr. Newill's report, exhibits the number and description of boundary marks put up by the several demarcation parties during the year 1860:—

Items.	Godavery.	Nellore.	Kistna.	Trichinopoly.	Salem.	Wainád.	Total.
Village Boundaries.							
Villages	362	15	448	253	281	6	1,365
Sub-divisions of do	1,239	35	3,191	365	257	...	5,087
Tri-junction pillars	881	23	948	676	682	3	3,213
Secondary do	2,388	68	5,231	1,351	4,122	...	13,160
Other marks on village boundaries	24,777	507	6,767	22,562	14,426	591	69,630
Marks on Sub-divisions of villages	19,618	373	17,499	4,502	5,208	...	47,200
Field Boundaries.							
Number of villages	278	13	387	283	417	6	1,354
Villages sub-divided	Villages 248	13	368	99	117	...	845
	Sub-division 1,262	35	3,185	324	428	...	5,234
Field marked	1,01,044	2,741	99,080	1,02,328	1,12,285	...	4,17,478
Field marks	3,07,986	7,515	3,73,831	...	...	52,287	7,41,619

15. The Board will now proceed to review the survey operations of the past year, which are detailed in the enclosure to Mr. Newill's report.

16. The Trichinopoly and Salem party, which was augmented in the number of its Amíns from 40 to 60 in March 1860, surveyed 1,347 square miles of which 1,123 square miles were, in detail of fields. These operations extended over the Conad, Vetticutty, and Manapara Táluqs in Trichinopoly, and the Ahtoor, Paramutty, and Namcul Táluqs in Salem. The measurement of interstitial fields was also undertaken by Captain Hessey, the energetic Officer at the head of this party, and was pushed on with vigour in 251 villages with the hope of completing the entire minor fields measurement of the Trichinopoly District before the end of April 1861, if funds were available for the purpose. The training of persons for the professional duties of the survey was also successfully prosecuted by the same Officer, and great assistance was thus rendered to the efficient maintenance of other branches of the Department.

17. The establishment sanctioned in South Arcot to complete the measurement of waste lands taken up since the date of the original survey, and to bring up the records so as to correspond with the existing state of cultivation, fulfilled its task in the past year, and also made some progress in similar additions and corrections of the survey accounts in the Trichinopoly Táluqs.

18. The Godavery party surveyed 1,016 square miles, of which 676 miles were in detail of fields in the Tanuku Relanghy, Nagarum, Undi, Pentapad, Amalapuram, Rallee, and Kota Ramachendraporam Táluqs. Considerable difficulty was experienced by this party in carrying

on its operations, from the numerous channels and streams with which the country is intersected, the unwillingness of the villagers to afford information and assistance, and the scarcity of labour, but the outturn of work is on the whole satisfactory, the demarcation is reported to have been more complete and correct than it was last year except in the low lands and lunkahs subject to inundation.

19. The Kistna party was not organized at its full strength till September 1860; and then an unfortunate combination of 60 of its subordinate members, to obtain higher pay and promotion was discovered, which retarded its progress considerably. The delinquents were allowed two days for consideration, at the termination of which as they still persisted in their refusal to work, they were all dismissed in a body, and measures were adopted for supplying their places by men from Madras, Nursapur, Guntur and Nellore. Hence the out turn of the party does not exceed 858 square miles, of which 583 were measured as fields. Captain Priestley reports that much time was also lost in correcting errors in the first year's work that had been subsequently brought to light.

20. The Wainád survey party was employed for two and a half months in that Táluq, and then transferred to the Ramapuram Táluq in Salem where it remained from 20th April to 16th December. Owing to the inexperience of the men composing the party the deficient demarcation, and the difficult nature of the country, not more than $5\frac{3}{4}$ square miles were surveyed in the former Táluq; but in the latter an extent of 143 square miles was completed. The exceptional circumstances in which this party was placed must, however, plead for its shortcomings in the present early stage of its operations.

In Cons. 4th July 1860, No. 1,094.

21. The nucleus of a party for Nellore has been formed in pursuance of the Orders of Government, dated 3rd July 1860, No. 1,094, Revenue Department. It consists at present of about 50 trained men drafted from other parties; and operations will be commenced as soon as the necessary instructions are received.

22. The following Statement exhibits at one view the cost of the survey operations during 1860:—

Items.	Extent surveyed.	1860. Total cost including measurement allowance and share of Central Office.	1860. Average cost per square mile.	Average cost in 1859.
	SQ. M.	RS. A. P.	RS. A. P.	RS. A. P.
Trichinopoly and Salem party	1,347	79,285 15 11	58 13 9	69 2 9
Godavery do.	1,016	72,509 11 6	71 5 11	90 14 10
Kistna do.	858	60,902 10 8	70 15 8	129 4 8
Wainád and Salem do.	162	40,501 15 7	250 0 2	... ...
Nellore do.	...	325 0 0	... ...	... ...
Total	...	2,53,525 5 8		
Lithographic Establishment	...	6,145 15 11		
Contingent charges, Instruments, and extra Establishments	...	26,810 4 9		
Grand Total	...	2,86,481 10 4		

Hence it appears that the total expenditure on account of the five parties was Rupees 2,53,525-5-8, that in Nellore being only Rupees 325, the pay of the Assistant Superintendent fo. December last. Adding Rupees 6,145-15-11, on account of the Lithographic Establishment, and Rupees 26,810-4-9* on account of contingencies chargeable to the general fund, the aggregate outlay on the Survey Establishment during the past year amounts to Rupees 2,86,481-10-4.

	Rs.	A.	P.
* Extra measurers Godavery	6,522	5	5
Do. Kistna	7,649	0	9
Instruments	4,661	3	1
Contingent charges Central Office	2,689	1	0
Do. Lithographic Press	3,140	13	4
Extra party in Trichinopoly	2,147	13	2
Total	26,810	4	9

23. The average cost at which the survey operations have been executed reckoning the same items as were included in the original estimate is Rupees 58-13-9 per square mile in Trichinopoly and Salem, Rupees 71-5-11 in the Godavery District, and Rupees 70-15-8 in the Kistna District, the case of Wainád being omitted as exceptional. These rates show that the Trichinopoly and Salem party has worked within the estimated rate of 64 Rupees per square mile, while the excess of the two other parties above it is so small as to lead to the expectation that they too will soon come within the prescribed standard. Compared with the cost of the year 1859, the rates exhibit a decrease varying from 15 to 45 per cent. and thus furnish additional testimony to the improvement that is gradually taking place in the cost. These results the Board consider to be very gratifying.

24. The Lithographic Press has turned out maps of 472 villages numbering about 15,050 copies at the rate of 6½ Annas per copy. Reckoning upon the total area of the above villages, this gives about Rupees 12-6-0 per square mile, being much in excess of the original estimate of 2 Rupees per mile. But compared with the cost of last year, Rupees 56, the decrease is satisfactory, and the Board doubt not that when the large presses lately received from England have commenced work, a further decrease in cost will take place.

Board's Proceedings, 14th July 1860, No. 3,247, paragraph 62.

25. In their review of the operations of this press for 1859, the Board remarked that it did not appear that any attempt had been made to prepare Táluq or District maps, and that they were desirous of seeing a beginning made as early as possible with his portion of the work, which was included in the original Estimate. They further called the attention of Captain Priestley to the Despatch of the Home Government in which the non-preparation of the Táluq maps was expressly remarked upon.

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

26. From paragraphs 38 and 39 of Captain Priestley's report it appears that considerable progress has been made in this branch of the operations. One Táluq in South Arcot, five in Trichinopoly, and one Táluq in each of the three Districts, Kistna, Godavery and Salem, have been prepared in manuscript, and will be lithographed as soon as the Táluq boundaries, as lately arranged by Mr. Pelly, have been defined by the ascertainment of the actual villages transferred to each Táluq. The speciman map of the northern part of the Perambalur Táluq forwarded for the inspection of the Board, appears to have been executed with great care, and reflects credit on Captain Hessey's department. It is drawn on a scale of two inches to a mile, but future maps will be drawn on a scale of one inch only, as sanctioned by the Board in their Proceedings dated 11th January 1861, No. 197.

27. The progress of the Madras Town Survey is exhibited in paragraphs 35, 36 and 37 of Captain Priestley's report. It appears that in the Black Town Division 2,800 holdings with 72 streets and lanes have been measured, 7 minor traverses comprising 4,645 holdings and 145 streets have been plotted, and 2,000 holdings have been compared and adjusted with the Collector's records. There remain 4,000 holdings to be measured in this Division. The operations in the Perambore division have been carried on chiefly by Mr. Cooke, the Assistant Surveyor, but no details of them except the total cost and area are furnished. As the Town survey has now been many years on hand, the Board request that a detailed report may be submitted by Captain Priestley through the Director of Revenue Settlement for their information, showing what has been done since the commencement of the undertaking; what remains to be accomplished; and how far the original objects of the survey have been realized in a financial point of view; also the total cost incurred on the survey hitherto, and the probable amount still required for its completion.

	RS.	A.	P.
Expenditure	2,862	2	11
Area	2,138 acres.		

28. In paragraph 42, Captain Priestley furnishes a statement of the average rates of error discovered in the Revenue accounts, in four of the Districts in which survey operations are now being carried on, viz., Trichinopoly, Salem, Godavery and Kistna. In Trichinopoly, the error

fluctuates very much, ranging from an *excess* of 40 per cent. to a *deficit* of 29 per cent. the average of the whole being estimated at an *excess* of 5 per cent. compared with the correct areas as ascertained by survey. In Salem and the two other Districts, it falls short of the latter by 8, 34 and 18 per cent. respectively. Captain Priestley observes that as a general rule it is highest in land not belonging to Government, and also in tracts of waste and swamp. In the Godavery District, it has been shown that the chief source of error was the arbitrary conversion of the Pootty (a measure of *seed*) into an area of 8 acres.

29. The test by comparison of the distances obtained from the Revenue survey records with those ascertained from the Trigonometrical Survey measurements has as usual been applied in each District under survey, and the result has been highly creditable to the exactitude of the former operations, the mean error detected being about 5 feet per mile. The investigation has also shown the inaccuracy of some of the Trigonometrical operations formerly conducted in the Northern Circars, a fact which is corroborated by a letter from the Surveyor General to the Deputy Surveyor General of India, dated 14th June 1848, an extract from which is appended to Captain Priestley's report. To enable the Board to ascertain how points situated beyond the limits of a single village circuit are connected with each other, without triangulation, by means of the Revenue Survey measurements alone, they request that Captain Priestley will furnish them with the details of the calculation of the distance of Tader from the Palcole Pagoda stated to be 63,984 feet by Revenue Survey, and 63,438 by Trigonometrical Survey.

30. In conclusion, the Board notice with pleasure the favorable testimony borne by the Director of Revenue Settlement and Superintendent of Survey to the exertions of their subordinates in general.

(A true Extract.)

(Signed) W. HUDLESTON, *Secretary.*

No. 347. ORDER THEREON, 20th March 1862, No. 624.

1. With the foregoing Proceedings the Board of Revenue, forward reports from the Director of Revenue Settlement and the Superintendent of Revenue Survey on the operations of their respective Departments during the year 1860.

Board's Proceedings, paragraphs 2, 3.

2. The Board commence their observations by remarking on those portions of the country which having passed through the preliminary processes of demarcation, survey and classification are either in process of, or ready for, settlement. In the former category may be placed the Manargudi and Chidambram Táluqs in South Arcot, and in the latter the western delta of the Godavery. The first, it is observed, is partially completed, and the second is, under the sanction granted by G. O. 24th June 1861, No. 1,231, about to be commenced upon. The remainder of the Godavery and a portion of Trichinopoly are reported to be nearly ready for similar treatment.

Director's Report, 7th March 1861, paragraph 3.

Director's Report, paragraphs 5, 6.

3. Though certain modifications in the existing Settlement Establishments and in mode of procedure were sanctioned by Government during the year under review, they were too late to affect the results of 1860; but they will doubtless cause considerable alteration in 1861. As in 1859, so in 1860, there were four parties—

G. O. 21st September 1860, No. 1,673.

Board's Proceedings, paragraph 4.

1st. Godavery and Nellore.
2nd. Kistna.
3rd. Trichinopoly and Salem.
4th. Wainád.

In these with the exception of Wainád the progress has been satisfactory. In that District the cost of the work performed is out of all proportion with the extent acted upon. The circumstances of the country are peculiar as has been often noticed,

Paragraph 8.

and the Government echo the hope expressed by the Board that "the operations of the present year (1861) will exhibit very different results."

4. The expenditure on Settlement operations may be contrasted as follows for the two years 1859 and 1860 :—

Names.	1859.	1860.	Remark.
	Rs.	Rs.	
Godavery.....	55,295	56,989	The figures in column 2 are taken from the Board's report on the operations of 1859.
Kistna.....	50,404	58,705	
Trichinopoly and Salem.....	55,535	61,621	
Wainád.....	7,805	31,586	
Central Office.....	59,425	62,706	
	2,28,464	2,71,607	

while, *ex*cluding Wainád as exceptional, and *in*cluding a proportional share of the cost of the Central Office, the number of square miles got over by each party, and the rate per square mile appear as follows :—

	Demarcation.		Classification.		Rate per square mile.					
	1859.	1860.	1859.	1860.	1859.			1860.		
	Sq.miles.	Sq.miles.	Sq.miles.	Sq.miles.	Rs.	A.	P.	Rs.	A.	P.
Godavery including Nellore.....	1,044	1,043	713	995	83	1	6	71	5	5
Kistna.....	986	1,402	697	1,593	81	10	5	49	14	5
Trichinopoly with Salem.....	948	1,787	1,360	2,016	63	8	6	40	6	6
	2,978	4,232	2,770	4,604	.....			....		

This shows *prima facie* a considerable reduction in cost: but, as observed by the Board (paragraph 10), the areas being in both cases based on the revenue accounts which are known to be inexact, the *actual* cost cannot be determined.

5. Under the circumstances adduced in paragraph 11 of the Board's Proceedings, the Government consent to let the question alluded to therein stand over till the result of last year's operations are reported. Even if the result favors the Director's expectations it must then be determined whether an additional grant over and above the estimated cost of the Survey and Settlement will have to be obtained to meet the cost of the English and Vernacular Registers referred to in paragraph 22 of Mr. Newill's report.

6. The arrangements alluded to in paragraph 12 of the Board's Proceedings under review, relative to the mode in which the Shevaro Hills are being treated as regards Survey, are approved.

7. The Board next proceed (paragraph 5 to 23) to review the Survey operations. Five parties are alluded to, but the one at Nellore as only in its infancy at the close of the year under review, and no work had been perfor . The character of that in Wainád was, as has already been described in reviewing the Settle nt operations, of an exceptional nature, the cost of the work done being excessive; while in the remaining three,* in spite of obstacles especially in the two first, Godavery and Kistna, a creditable advance has been made over the previous year.

* Godavery, Kistna, Trichinopoly and Salem.

8. The following Statement shows the work done in 1860 as compared with 1859.

Parties.	Square miles surveyed.		Average cost per square mile.					
	1859.	1860.	1859.			1860.		
			Rs.	A.	P.	Rs.	A.	P.
Godavery	488	1,016	90	14	10	71	5	11
Kistna	294	858	129	4	8	70	15	8
Trichinopoly and Salem...	780	1,347	69	2	9	58	13	9
Total... ...	1,562	3,221	.....	...	...	.....		
Wainád...	.....	162	.....	...	...	250	0	2
Grand total.....	1,562	3,383	.....	...	...	.....	...	...

9. The total expenditure in the Survey Department was, inclusive of the Lithographic Establishment and contingencies, Rupees 2,86,181-10-4. It is observed, however, that out of the 3,221* square miles surveyed by the three first parties, 2,382 only were in detail of fields, while the rate apparently is calculated on the larger amount which cannot be considered as completed. Notwithstanding this discrepancy, the Government fully concur with the Board in considering the result extremely gratifying, and they look forward with confidence to a further diminution in the rates during the year 1861.

* 676
583
1,123
2,382

10. In the Godavery and Trichinopoly parties the additional hands sanctioned by G. O. 28th December 1859, No. 1,799, were entertained early in the year. The full amount allowed for each party by that order has, however, not been expended. The results noticed above show that Major Priestley did not err in calculating the outturn of the first year in the north at 1,000 square miles for each full party (*vide* paragraph 6 of the order referred to above). In the Kistna party the increase was not made till towards the close of the year, and special occurrences noticed in paragraph 17 of the Superintendent's report prevented the change from having any effect on the outturn.

11. The recent orders on the Wainád Survey and Assessment render it unnecessary to remark further on the Superintendent's report as far as it affects this locality.

G. O. 21st October 1861, No. 2,015.

Board's Proceedings paragraphs, 24—26.

12. Major Priestley's account of the progress made in the preparation of maps is encouraging. The Government concur in the Board's commendation of the specimen of Táluq map transmitted. As to those of villages, also submitted with Mr. Newill's Memorandum of the 3rd April 1861, improvement seems possible. The great decrease in cost over the previous year 1859 makes it tolerably certain that the original estimate will before long be found to suffice.

Paragraph 27.

13. The Board's call for a full report on the Madras Town Survey is approved.

Paragraph 28.

14. The observations on the average rate of error in the revenue accounts are interesting.

15. His Excellency in Council desires to express his gratification at the decided improvement which has been effected in 1860 in both Departments of Survey and Settlement, and which must be ascribed to the continuous exertions of the officers employed; he coincides with the Board in their expression of acknowledgments to these gentlemen.

(Signed) C. G. MASTER,
Deputy Secretary to Government.

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B. Statement showing the average cost per square mile on the Survey areas in certain Taluks in the Godavery, Krishna and Trichinopoly Districts.

C. Statement showing the number and description of boundary marks put up by the several Settlement parties for the year 1860.

No. 372.

REVENUE SETTLEMENT OFFICE,
MADRAS, 7th *March* 1861.

From H. NEWILL, ESQ.,
Director of Revenue Settlement,

To J. D. SIM, ESQ.,
Secretary to the Board of Revenue.

SIR,

OPENING REMARKS.—1. I have the honor to submit the following report on the Revenue Settlement operations for the year 1860. My previous reports having entered fully into details, and more brevity having been enjoined upon me by Government in their review of the operations of the previous year, I shall confine myself to a description of the general features of the work with a notice of the circumstances affecting its progress. A report of the Superintendent Revenue Survey on the Survey operations of the year accompanies this.

Dated 21st September 1860, No. 1673.

INTRODUCTION OF THE NEW SETTLEMENT IN THE SURVEYED TALUKS OF SOUTH ARCOT. 2.—During the year, the Government passed their final orders dated 19th October 1860, No. 1906, approving of the proposed Settlement of the surveyed Taluks of South Arcot, and desired that it should be carried out by me personally, no Deputy being available for the purpose, and the task being a delicate one in consequence of the large increase of Assessment imposed in some cases upon Villages which had not been properly assessed with reference to their increased advantages of irrigation. This was commenced during the year under report, and subsequently continued, and, I may add that, although the increase of Assessment which occurs in some cases is necessarily unpalatable, the reasonableness of it has generally silenced objections. I have not met so far with opposition, and the measure has every prospect of success. From the large total reduction of assessment it involves, it is generally popular, and the applications I have received for its introduction in the present fusly include several parties, whose assessment will be enhanced by the new settlement.

PROPOSED NEW SETTLEMENT FOR A PART OF THE GODAVERY DISTRICT ALREADY SUBMITTED AND THE PROGRESS OF ITS FORMATION IN OTHER DISTRICTS. 3.—The above duty has somewhat interfered with the preparation of the settlement of other Districts. The settlement report of the western branch of the Godavery Delta, about 900 square miles, has been already submitted. That for the remainder of the Godavery District, will follow shortly and before the survey will have finished the areas for carrying out the proposed Settlement. In Trichinopoly the settlement is being worked upon the Survey areas of the 4 upland Taluks, with a proposal for the extension of the same measure to the rest of the District as the survey accounts come in.

To Board of Revenue 27th February 1861, No. 323.

THE INJURIOUS EFFECT OF THE FREQUENT CHANGES WHICH HAVE OCCURRED IN THE DEPUTY DIRECTORS IN CHARGE OF PARTIES. 4.—I would notice here a circumstance which has had a very serious influence on the Department generally, viz. the frequent changes in the Deputy Directors in charge of parties. Early in the year, Mr. Ballard, in charge of the Masulipatam party, returned to Europe, for the completion of his Furlough, after having been in the Department

little more than 12 months. In the month of April Mr. Thomas, Deputy Director in Wynaad, was laid aside by sickness, but as there was some hope of his resuming work by the time the field operations were re-commenced, his post remained vacant; and, at the last moment, Mr. Stuart was appointed to act for him. Again, in October the health of Mr. Puckle, Deputy Director in Trichinopoly, broke down after being about 18 months at his post, and he was obliged to proceed to Europe, creating a change there at a very inconvenient time. My Deputy in the Godavery District, Mr. R. E. Master, is the only one who has remained in the Department from the commencement, and, in the ordinary course of promotion, I cannot calculate long on his services. Entirely unaided as the Deputies were by any European agency, all these changes have been attended with much risk and inconvenience to the Department, and necessarily had an injurious effect upon the work, and have also much impeded the formation of the final settlement.

5th October 1860.

THE EFFECT OF ADDITIONAL EUROPEAN SUPERVISION AND THE ENLARGEMENT OF ESTABLISHMENTS NOT FELT DURING THE YEAR. 5.—Early in the year, I brought to notice the necessity for introducing more European superintendence in the several parties as found from past experience; and, after some further correspondence, submitted, on 25th June 1860, No. 661, a proposition for re-organizing the parties, so as to provide the superior supervision required without increasing the cost of operations per square mile beyond the original rate, by enlarging, at the same time, the field establishments, and consequently the out-turn of field work, in proportion to the additional supervision, the enlargement of the parties being also necessary in order to keep pace with the increased Survey parties. This proposal, with some modifications, received the approval of Government on 17th October and 1st December last, and, on 29th of the latter month,* the Civil Auditor was directed to give effect to it in the Audit Office, as regards the entertainment of the enlarged establishment in places where found desirable. Only one Assistant was appointed within the year, so that the effect of the measure will not be manifest until the following year, and then only partially, as the Assistants require time to qualify, and to become fully efficient, and in places where the demarcation is far in advance of the Survey, it is not desirable to increase the field establishments.

Letter to Government 8th March, 1860, No. 197.

No. 1899, 2288 and 2289, * Proceedings No. 2515.

THE EFFECT OF THE SEPARATION OF THE DEMARCATION AND CLASSIFICATION OPERATIONS AS REGARDS THE IMMEDIATE PROGRESS OF THE WORK. 6.—The proposal, sanctioned in the Proceedings of Government dated 7th December 1860, No. 2,334, for the separation of the Demarcation from the Classification, the former going before, and the other following the Survey, will, for a time, materially affect the progress of the latter branch of operations, which will be kept in abeyance for the present in new Districts taken up. The cost of the work will also, as pointed out in my letter dated 6th September last, No. 849, para. 22, be materially increased for some time until the Survey has advanced far enough for the subsequent Classification and Assessment to be taken up, for the cost of superintendence in the salaries of the Deputies and their Offices, will remain the same for the one as for the two branches of operations. The cessation of the classification on the completion of a District will however have the advantage of affording the Deputy Directors time to carry out the settlement by relieving them for a while of the superintendence of classification in a new district. The classification also will hereafter proceed more rapidly, disencumbered, as it will be eventually, of the demarcation. When the progress of the several processes becomes properly adjusted, the measure may be expected to work well, and probably with little additional cost, provided however that sufficient provision is made for European Assistants as regards their number and pay.

EXPENDITURE OF THE YEAR, EXTENT OF WORK PERFORMED, AND THE COST OF OPERATIONS PER SQUARE MILE FOR EACH PARTY. 7.—The Expenditure of the year compared with the sanctioned amount for the several parties is given below. The scale for the parties before their enlargement is retained as, with the exception of the entertainment of one Assistant Director, the parties were not enlarged during the year.

Parties.	Sanctioned Scale.	Actual Expenditure.	Difference.	Remarks.
	Rs.	Rs.	Rs.	
Godavery.....	59,851	56,989	— 2,862	The salary of an Assistant, amounting to Rupees 760, is not included in the sanctioned scale here given.
Krishna.....	59,851	58,705	— 1,146	
Trichinopoly, and Salem.	59,851	61,621	+ 1,770*	* This includes the salaries of the portion of the Wynaad party temporarily transferred to Salem and properly chargeable to that District.
Wynaad.....	59,851	31,586	— 28,265	
Central Office.....	63,280	62,706	— 574	
Total.....	302,684	271,607	31,077	

8. It is necessary to remove some apparent misunderstanding regarding the cost of the operations. In the original scheme, as sanctioned by the Home Government, the cost of Survey is given at about Rupees 64 a square mile, and the cost of Settlement also at Rupees 64 a square mile, the same extent of country being calculated for each branch of operations. In judging of the cost of the work, as compared with the estimate, the calculations for both Survey and Settlement should therefore proceed on the same basis. This has not hitherto been the case. The Survey cost being calculated on the traverse areas, which include the whole tract of country operated upon, thus according with the conditions of the estimate, extensive hills and jungles being excluded, and the gross area included being safely taken as within double of the extent of present cultivation together with Ináms &c.

E. M. C. 14th August 1855, No. 951 paras. 38 and 42. Despatches Hon. Court dated 17th December No. 17 of 1856.

Para 10.

Para 38.

As the Settlement field work has preceded the Survey, it is evident that the same traverse areas were not available for the calculation of the cost per square mile, and recourse has hitherto been had to the detailed areas of work as derived from the revenue accounts after applying such correction as was practicable, but these again, after such correction, have fallen short of the actual area of the country operated upon as defined by traverse, and, consequently, the Settlement operations have been thus represented, as costing more than is actually the case, when compared with the original estimate.

9. I shall first give the calculations of the cost per square mile of the operations of the past year on the approximate accounts, and afterwards the cost as ascertained on the traverse areas for the Taluks for which they are available.

Parties.	Demarcation.			Classification.			
	Extent in square miles.	Expenditure.	Average rate per square mile.	Extent in square miles.	Expenditure.	Average rate per square mile.	Total.
		Rupees.	Rs. A. P.		Rupees.	Rs. A. P.	Rs. A. P.
Godavery.....	896·97	33,220	37 0 7	994·61	34,117	34 4 10	71 5 5
Nellore.....	146·13	5,328	36 7 4	.....	.....	.....	36 7 4
	1043·10	38,548	36 15 3	994·61	34,117	34 4 10	71 4 1
Krishna.....	1401·64	37,496	26 12 0	1593·06	36,885	23 2 5	49 14 5
Trichinopoly & Salem.....	*1787·30	*32,409	18 2 2	2015·82	44,890	22 4 4	40 6 6
Wynaad.....	114·24	47,263	413 11 3	.....	....	.....	.....
Total omitting Wynaad.....	4232·	1,08,453	25 10 0	4·604	1,15,892	25 2 9	50 12 9
* Particulars of work executed by.. ...	*The Salem party,* 1,491	27,041	18 2 2				
	The Wynaad party. 296	5,368	18 2 2				

10. From the appended Statement A. of which an abstract is given in the margin, it will be seen that in the Godavery party the area operated upon, inclusive of the work taken up in Nellore, is about 1,000 square miles demarcation and classification, of which 779 and 741 square miles respectively are in details of fields. The demarcation has cost Rupees 37-0-7 per square mile in the Godavery District and in the Nellore District Rupees 36-7-4 the average being Rs. 36-15-3; while the classification has cost Rs. 34-4-10 making the average of the two operations (inclusive of the cost

of the central office) Rupees 71-4-1, but the full area of operations cannot be given until the Survey goes over the ground, when a reduction in the calculation will follow. The cost also includes the preparation of the preliminary accounts of the Assessment, and in this locality also there have been special circumstances in the completion of the District and the transfer of the work to another one, which have tended to raise the cost by the unavoidable loss of a month's expenditure and out-turn of field work. The cost also includes a portion of the charge for the revision of the classification in the Taluks classified in 1858-59 and for the re-demarcation of islands in which the boundary marks were washed away in the floods of the previous season.

11. In the Krishna party the area operated upon is about 1,400 and 1,600 square miles respectively for demarcation and classification; the portion in details being 1,025 and 1,235 square miles respectively. The cost has been Rupees 26-12. per square mile for demarcation and Rupees 23-2-5 for classification, or together Rupees 49-14-5, which is well under the estimate of Rupees 64, and leaves a broad margin for the completion of the settlement.

12. In the Trichinoply and Salem party the area operated upon has been about 1,800 square miles and 2000 square miles for demarcation and classification respectively, of which there is about 1,500, square miles in detail. Of this extent about 300 square miles belong to the Wynaad party partially transferred temporarily to Salem. The Demarcation has cost on the whole area operated upon Rupees 18-2-2 per square mile, and the Classification Rupees 22-4-4 per square mile, the total being Rupees 40-6-6 per square mile, leaving a still wider margin for the completion of the settlement. As no recess fell within the year, the usual cessation of the field work, to the extent of about $\frac{1}{6}$ of the whole season, did not occur, and the cost may be said to be reduced in this proportion or nearly Rupees 7 per square mile. With this addition it would more nearly approximate to the rate in the Krishna District.

13. The out-turn of work of this party, taken in connection with that of the Krishna party, shews that the annual standard of 1,250 square miles of field work is attainable with the parties on the footing on which they existed before their enlargement, and with the two branches of demarcation and classification in a great measure combined.

14. At the period for which this report closes, half of the working season in Wynaad had not elapsed, and the small area of 114 square miles, extending over 6 Deshams, is not a correct index of what the out-turn of the remaining part of the season will be, as the party is strengthened and made more efficient. The cost in this party is calculated at Rupees 413-11-3 a square mile and although this may be much reduced, there is no doubt that this work will prove very expensive. The pay of the agency is necessarily high, the difficulties great in point of climate, scarcity of labour for boundary marks, the clearing of extensive boundary lines, the apathy of the proprietors and reluctance or often inability, to afford the requisite assistance in demarcation through the want of labor.

15. It may be added here that the party is divided into two branches, one of which, centered at Manantoddy, will, within a radius of about 10 miles, take up most of the European Coffee estates in the north and west, as well as land in demand for Coffee cultivation. The other, centered at Vitry, will reach all the European coffee estates in the Southern part within a radius of about 9 miles, as well as land likely to be selected by new comers. These two divisions make up fully half of the Wynaad, and, if by pressing on field work to the latest possible period, they can be accomplished in the present season, there will be a prospect of completing the rest in the following season; but the continuance of sickness, want of labor and other difficulties forbid too sanguine an expectation being entertained on this point.

16. Omitting the exceptional case of Wynaad, the operations of the year have cost for the demarcation Rupees 25-10-0, and for the classification Rupees 25-2-9 per square mile. or on an average Rupees 50-12-9 per square mile for both together.

ACTUAL COST OF THE WORK DISTRIBUTED ON THE TALUKS FOR WHICH THE SURVEY AREAS HAVE BEEN RECEIVED. 17.—A Statement is appended (B) shewing the cost of the operations

from the commencement calculated on the Survey areas of the Taluks for which they are available in the several Districts. The cost in the Godavery District has been as much as Rupees 108 and 96 respectively for the first two Taluks taken in hand, but, as the work has advanced, it has come down to 50 to 57 Rupees a square mile in the last 3 Taluks in the list, which does not reach to the full operations of the past year. The cost at first was necessarily excessive owing to the salaries of the Director and the Deputy, as well as those of the office establishments, being incurred without commensurate results in field work during the time the party was in training. The charge also for the central office was at first distributed on only two parties instead of four.

18. The same cause has tended to raise the charge for the first Taluk in the Krishna District to a similar standard, the rate being about 102 Rupees a square mile. In the other Taluks for which the accounts have been received, the cost has been Rs. 55, Rs. 46, and Rs. 36 respectively per square mile.

19. In the Trichinopoly party there was a surveyed field ready for classification, the cost of which in two Taluks was about Rupees 44 and Rupees 28 respectively per square mile. In the first Taluk demarcated as well as classified, the joint operations cost Rupees 63 a square mile. In the last Taluk in the list they cost only Rupees 27½, but the demarcation is unusually low, as it consisted in putting up the boundary marks mostly after the survey had been made. For several other surveyed Taluks the Survey areas have not yet been received, but the approximate calculations given above of Rupees 40-6-6, per square mile for the past year's work, shew that in this party the cost has been proportionately low.

20. These results will, it is hoped, remove much of the impression conveyed in the Board's review of the previous year's operations as to the cost of the work being either excessive or uncertain.

21. In their letter to Government dated 11th December last, No. 5800, the Board mention the sum of Rupees 75 to 80 per square mile as considered by me necessary for the Settlement. This, as explained at the time, was roughly stated, taking the accounts on the footing on which they then existed, while I pointed also to the results obtained in Salem* as shewing that at least under some circumstances the work might be expected to be done within the cost originally estimated.

Taking the total results above described and allowing for further reduction of the cost in the past year, which is justified by the approximate calculations above given, there is a good margin for the completion of the Settlement. The cost of this latter cannot be calculated at present with certainty. It will necessarily be greater in the first 2 or 3 districts settled than afterwards; for after the system has once been brought into full operation, the settlement will become more a matter of routine to be carried on more closely after the preliminary processes. As the European Assistants also become fully qualified, they will leave the Deputy Directors much more time for these more important parts of their duty.

Under these circumstances, therefore, there does not appear a necessity for applying to the Government of India for an increased rate of expenditure per square mile as suggested in para. 18 of Proceedings of Madras Government dated 1st December last, No. 2289, as it may be expected that the establishments will *eventually* fulfil the work at the estimated cost.

22. There may however be an additional charge for the preparation of the English and vernacular Registers in duplicate. This has been carefully calculated in communication with my Deputies, and it is estimated that about Rupees 5 per square mile will be required for the purpose. The cost will vary according to the size of the fields and the number of entries required for each square mile.

TREATMENT OF THE COFFEE AND OTHER CULTIVATION ON THE SHEVAROY HILLS. 23.—I

* Demarcation Rs. 26-10-0, and Classification Rs. 26-14-5, or together Rs. 53-8-5 per square mile, calculated on the detail work alone, as shown in report for 1859.

may notice the mode in which the Shevaroy Hills in Salem are being treated as regards Survey. The large tracts of coffee and other cultivation on them belong to the general scheme of survey and settlement, which however requires some modification to meet the local circumstances. After consultation with the Collector the following course has been decided upon.

1st. To identify a few points on the hills from the Trigonometrical survey or to determine them in connection with the survey in the plains so as readily to afford the means of connecting the tracts of cultivation.

2nd. To demarcate for survey, as a rule, the Coffee plantations severally by properties, or, in cases where it is more convenient to the owners, in two or more divisions, the public roads running through the estates and other topographical features being drawn in.

3rd. To survey the cultivated valleys or slopes grown with grain and other crops, in the fields or terraces into which they are now divided, and likewise all waste fields of the same kind.

4th. To exclude from survey the rocky or other barren hills not likely to be occupied, a line being taken around them defining the more cultivable portions.

5th. To lay out in blocks of about 20 acres, for future occupation, slopes and valleys suited for Coffee cultivation; but in the case of lands situate near villages or existing cultivation, which are likely to be taken up for grain cultivation, to form fields of a more moderate size according to the extent prevailing in the locality and adapted to the present requirements of the hill people.

24. The settlement on Coffee lands has already been determined by the Government fixing Rupee 1 an acre as their assessment. It will be considered whether the same principle may not be extended to the grain and other cultivation.

Proceedings 13th Sept. 1859, No. 1229.

Disposal of the Wynaad party during the next unhealthy Season. 25.—The arrangements made for the employment of the Wynaad parties during the next unhealthy season and the monsoon may be here noticed. In the previous year they were partially transferred to Salem, but this course did not prove altogether satisfactory, as it occasioned a considerable loss of time and additional expense, while experience shews that it is necessary to make the arrangements so as to facilitate the employment of Malabar men. It has been resolved therefore, after consultation with the Superintendent of Revenue Survey, to take up the Palghaut Taluk in Malabar, for the employment of the field establishments of the Settlement and Survey parties until work can be resumed in Wynaad after the monsoon. This locality is the one to which also the Collector requested the first attention.

Remarks on the survey operations as affecting the progress of the Settlement. 26.—In conclusion I may observe with regard to the Survey work, that I am dependent upon that Department for the completion of the calculation of areas for numerous Taluks which have been measured in the several Districts, and too much stress cannot be laid upon the handing over this detail as soon as practicable after the field survey is made. In the absence of it the earlier processes of assessment have in many cases been necessarily made in the revenue accounts, the inaccuracy of which more or less affects the conclusions drawn upon them as to financial and other results.

27. The Lithographed Maps are also an important assistance for Settlement operations, and although Captain Priestley, as his report shews, has made admirable progress in this branch of his work, I despair of receiving them, to any great extent, in time for the Settlement, particularly as the area mapped falls so far short of the out-turn of the parties. As a partial remedy for this, I am preparing copies of the rough demarcation sketches in the Godavery District.

I have the honor to be,

Sir,

Your most obedient Servant,

H. NEWILL,

Director of Revenue Settlement.

APPENDIX

STATEMENT *showing the extent of Demarcation and Classification incurred therein for Godavery*

	TALUKS.	No. of Villages completed.	No. of Villages in progress.	Ayakat or gross area in square miles	Actual work in square miles.	Cost of Field work.	Cost of Central Office.	Total	Average cost per square mile on the Ayakat.		
						Rs.	Rs.	Rs.	Rs.	A.	P.
Demarcation.	Mogaltur	...	...	...	...	654	181	835			
	Tanuku	...	...	...	...	928	256	1184			
	Undi	...	...	...	...	760	210	970			
	Relangi	...	...	...	...	307	85	392			
	Keikalur	...	...	...	...	34	9	43			
	Pentapad	...	...	...	·46	596	165	761			
	Nagaram	...	...	...	...	395	109	504			
	Amalapur	...	...	...	...	496	137	633			
	Kotaramachendrapuram	...	1	...	1·28	442	122	564			
	Rali	...	...	...	...	427	118	545			
	Kapaveram	53	2	...	174·85	5732	1584	7316			
	Bickavole	27	...	...	80·57	2570	709	3279			
	Cocanada	2	...	...	2·79	89	25	114			
	Pittapur	2	...	...	1·84	46	13	59			
	Peddapur	14	...	...	38·94	858	237	1095			
	Lingamparru	19	...	...	34·45	1203	333	1536			
	Kottapalli	37	...	...	74·64	1689	468	2157			
	Rajahmundry	18	1	...	39·04	1163	321	1484			
	Tadimalla	20	1	...	101·14	3901	1078	4979			
	Chintalapudi	42	4	...	92·78	3505	968	4473			
	Tiruvur	..	1	...	8·86	233	64	297			
	Total...	234	10	716·80	651·64	26028	7192	33220			
	Add 10 per cent.	...	...	...	65·16	...	...	...			
	Total...	...	...	716·80	716·80	...	...	...			
	Isolated Agrahams, &c. demarcated	...	..	180·17	...	...	...	...			
	Nellore	234	10	896·97	716·80	26028	7192	33220	37	0	7
		13	26	146·13	62·37	4682	646	5328	36	7	4
		247	36	1043·10	779·17	30710	7838	38548	36	15	3

NOTE.—Taking the Taluks in the Godavery district surveyed up to this time, the excess found by the survey over the demarcated area is 13¾ per cent. and over the classified area nearly 20 per cent., but these rates cannot be taken as applicable to the demarcated Taluks not yet surveyed and the addition of 10 per cent. for the whole appears a moderate addition.

A.

performed by the several Settlement Parties and the expenditure the year 1860.

Party.

	TALUKS.	No. of Villages completed.	No. of Villages in progress.	Ayakat or gross area in square miles.	Actual work in square miles.	Cost of Field work.	Cost of Central Office.	Total.	Average cost per square mile on the Ayakat.		
						Rs.	Rs.	Rs.	Rs.	A.	P.
Classification.	Mogaltur	...	...	...	...	1536	458	1994			
	Tanuku	...	...	...	...	826	246	1072			
	Undi	...	...	...	...	1216	363	1579			
	Relangi	...	...	...	...	134	39	173			
	Keikalur	...	...	...	...	26	8	34			
	Pentapad	18	...	...	50·84	1570	469	2039			
	Nagaram	46	...	...	89·32	3422	1021	4443			
	Amalapur	1	...	...	·82	1079	321	1400			
	Kotaramachendrapuram	...	1	...	1·20	380	114	494			
	Rali	2	...	...	8·62	684	204	888			
	Kapaveram	89	2	...	185·3	4393	1311	5704			
	Bickavole	27	...	...	77·52	2722	812	3534			
	Cocanada	2	...	...	2·34	99	30	129			
	Pittapur	2	...	...	1·48	55	16	71			
	Peddapur	14	...	...	28·62	935	279	1214			
	Lingamparru	19	...	...	26·63	1107	330	1437			
	Kottapalli	37	...	...	56·12	1805	538	2343			
	Rajahmundry	18	1	...	32·48	1087	324	1411			
	Tadimalla	20	1	...	68·43	945	282	1227			
	Chintalapudi	39	4	...	37·15	2005	598	2603			
	Tiruvur	...	1	...	6·83	253	75	328			
	Total	334	10	814·44	673·43	26279	7838	34117			
	Add 10 per Cent	...	...	...	67·34	...	...	...			
	Total	...	...	814·44	740·77	...	...	...			
	Isolated Agraharams, &c.	...	...	180·17	...	...	...	...			
	Total	334	10	994·61	740·77	26279	7838	34117	34	4	10

APPENDIX

Krishna

	TALUKS.	No. of Villages completed.	No. of Villages in progress.	Ayakat or gross area in square miles.	Actual work in square miles.	Cost of Field work.	Cost of Central Office.	Total.	Average cost per square mile on the Ayakat. Rs.	A.	P.
						Rs.	Rs.	Rs.			
Demarcation.	Keikalúr	2	...	.....	·11	1356	358	1714			
	Bezwada	6	...	.....	·33	1464	387	1851			
	Nandigama	11	...	8·05	13·36	2948	779	3727			
	Jaggayapet	35	...	95·32	76·38	5383	1423	6806			
	Gundigolanu	24	...	76·40	72·36	2427	641	3068			
	Ellore	...	...	.....	.....	182	48	230			
	Gudiwada	...	...	.....	.....	562	149	711			
	Bandur	...	...	.....	.....	440	116	556			
	Divi	...	...	.....	.....	830	219	1049			
	Pedana	...	...	.....	.....	231	61	292			
	Total	78	..	179·77	162·54	15823	4181	20004			
	Add 10 per Cent	...	...	.....	16·25	...	...	...			
	Total	78	...	179·77	178·79	15823	4181	20004			
	Guntoor	133	...	423·90	393·63	3788	1001	4789			
	Mangalagiri	...	...	.....	.....	1405	371	1776			
	Tenali	...	...	.....	.....	213	56	269			
	Krosúr	159	3	514·54	403·74	8094	2140	10234			
	Ponnúr	...	...	.....	.....	335	89	424			
	Repalli	9	...	31·88	28·38	...	...	...			
	Bapatla	8	...	20·52	20·21	...	...	...			
	Total	309	3	990·84	845·96	13835	3657	17492			
	Total	387	3	1170·61	1024·75	29658	7838	37496			
	Demarcated in Khandams or divisions	...	...	231·3	.....	...	...	...			
	Grand Total	387	3	1401·64	1024·75	29658	7838	37496	26	12	0

NOTE.—The Traverse areas of the surveyed Taluks in the Masulipatam Division of the Krishna District give an excess of 10 per cent. over the Settlement returns, and this has been taken as a fair addition for the whole of the Masulipatam Taluks.

A.—(*Continued.*)

Party.

	TALUKS.	No. of Villages completed.	No. of Villages in progress.	Ayakat or gross area in square miles.	Actual work in square miles.	Cost of Field work.	Cost of Central Office.	Total.	Average cost per square mile on the Ayakat. Rs.	A.	P.
						Rs.	Rs.	Rs.			
Classification.	Keikalúr	41	...	59·52	58·47	1073	289	1362			
	Bezwada	32	...	90·62	59·95	2559	690	3249			
	Nandigama	26	..	114·10	61·76	1332	358	1690			
	Jaggayapet	42	...	121·92	107·38	1473	397	1870			
	Gundagola u	24	...	61·80	57·46	3777	1020	4797			
	Ellore	18	...	79·96	74·46	1647	444	2091			
	Gudiwada	...	...	.....	.....	743	200	943			
	Bandur	...	...	.....	.....	439	119	558			
	Divi	...	...	.....	.....	893	241	1134			
	Pedana	...	...	.....	.....	168	46	214			
	Total	183	...	527·92	419·48	14104	3804	17908			
	Add 10 per cent	...	...	.....	41·95	...	...	...			
	Total	183	...	527·92	461·43	14104	3804	17908			
	Guntoor	130	...	371·98	352·21	3852	1040	4892			
	Mangalagiri	...	...	.....	.....	1580	427	2007			
	Tenali	...	...	.....	.....	258	70	328			
	Krosúr	152	3	414·40	376·06	8912	2405	11317			
	Ponnúr	...	...	.....	.....	341	92	433			
	Repalli	9	...	27·53	26·06	...	...	...			
	Bapatla	8	...	20·20	18·81	...	...	...			
	Total	299	3	834·11	773·14	14943	4034	18977			
	Total	482	3	1362·03	1234·57	29047	7838	36885			
	Khandams as opposite	...	...	231·3	.....	...	...	...			
	Grand Total	482	3	1593·06	1234·57	29047	7838	36885	23	2	5

APPENDIX

Trichinopoly and

Demarcation.	TALUKS.	No. of Villages completed.	No. of Villages in progress.	Ayakat or gross area in square miles.	Actual work in square Miles.	Cost of Field work.	Cost of Central Office.	Total.	Average cost per square mile on the Ayakat. Rs.	A.	P.
	Trichinopoly. Konad	157	...	274·93	201·24	Rs. 4099	Rs. 1308	Rs. 5407			
	Trichinopoly. Vettikatti	63	...	349·29	291·67	4345	1386	5731			
	Trichinopoly. Manapara	33	...	238·10	203·92	1418	452	1870			
	Trichinopoly. Volcondapuram	73	...	.....	29·93	482	154	636			
	Total	326	...	862·32	726·76	10344	3300	13644			
	Salem. Rasipuram	82	...	65·55	62·48	2813	880	3692			
	Salem. Trichingode	42	...	117·38	116·51	2999	957	3960			
	Salem. Senkagiri	54	...	303·95	254·54	3502	1116	4615			
	Salem. Salem	170	...	209·17	192·0	2741	875	3616			
	Salem. Omalur	69	...	228·93	197·73	1982	650	2632			
	Salem. Attur	...	...	.....	.....	189	61	250			
	Total	417	...	924·98	823·26	14226	4539	18765			
	Grand Total	743	...	1787·30	1550·02	24570	7839	32409	18	2	1
	Particulars.—Work executed by the Trichinopoly Party	...	...	1491	1293	19784	7257	27041	18	2	2
	Do. by the Wynaad do.	...	...	296	257	4786	582	5368	18	2	2

Wynaad

Demarcation.	TALUKS.	No. of Villages completed.	No. of Villages in progress.	Ayakat or gross area in square miles.	Actual work in square Miles.	Cost of Field work.
						Rs.
	Wynaad	6	...	.....	114·24	3158

REVENUE SETTLEMENT OFFICE,
Madras, 7th March 1861.

A.—(*Concluded.*)

Salem Party.

Classification.	TALUKS.	No. of Villages completed.	No. of Villages in progress.	Ayakat or gross area in square miles.	Actual work in square Miles.	Cost of Field work.	Cost of Central Office.	Total.	Average cost per square mile on the Ayakat. Rs.	A.	P.
						Rs.	Rs.	Rs.			
	Trichinopoly. Udiarpolliem	...	...	.....	.....	1553	328	1881			
	Trichinopoly. Ariyalur	...	...	.....	.....	2266	479	2745			
	Trichinopoly. Volcondapuram	81	...	43·29	53·35	1793	380	2173			
	Trichinopoly. Torriyore	10	...	44·13	28·94	2947	624	3571			
	Trichinopoly. Musuri	34	...	87·71	59·34	1399	296	1695			
	Trichinopoly. Konad	157	...	274·93	174·63	4428	937	5365			
	Trichinopoly. Vettikatti	63	...	349·29	261·75	4244	898	5142			
	Trichinopoly. Lalgudi	179	...	110·95	87·75	2468	522	2990			
	Trichinopoly. Manapara	33	...	239·14	168·52	1418	300	1718			
	Total	557	..	1149·44	834·28	22516	4764	27280			
	Salem. Attur	...	...	.....	.....	151	32	183			
	Salem. Rassipuram	76	...	65·55	52·49	1629	344	1973			
	Salem. Trichingode	42	...	116·78	106·69	3519	745	4264			
	Salem. Senkagiri	54	...	303·93	223·15	3761	796	4557			
	Salem. Salem	167	...	205·62	171·80	3176	672	3848			
	Salem. Omalur	60	...	174·50	139·27	2299	486	2785			
	Total	399	...	866·38	693·40	14535	3075	17610			
	Grand Total	956	...	2015·82	1527·68	37051	7839	44890	22	4	4

Party.

Cost of Central Office.	Total.	Average cost per square mile on the details. Rs.	A.	P.
Rs.	Rs.			
15677	47263	413	11	3

H. NEWILL,
Director of Revenue Settlement.

APPENDIX B.

STATEMENT *showing the average cost per square mile on the Survey areas in certain Taluks in the Godavery, Krishna, and Trichinopoly Districts.*

Districts		Taluks.	Expenditure from 1858 to 1860. On Demarcation.	Expenditure from 1858 to 1860. On Classification.	Traverse areas. Extent in square miles.	Average per square mile on Demarcation.	Average per square mile on Classification.	Total.	Years in which the Taluks were Demarcated and Classified.	Years in which the Taluks were Surveyed.
			Rs.	Rs.		Rs. A. P.	Rs. A. P.	Rs. A. P.		
Godavery	1	Mogaltur	18,642	11,462	277·29	67 3 8	41 5 5	108 9 1	1858-59	1858-59-60
	2	Tanuku	10,675	4,270	154·59	69 0 10	27 9 11	96 10 9	58-59	59-60
	3	Undi	8,425	7,011	223·18	37 12 0	31 6 8	69 2 8	59	60
	4	Relangi	5,650	3,024	115·66	48 13 8	26 2 3	74 15 11	58-59	59-60
	5	Nagaram	6,924	4,503	134·97	51 4 10	33 5 10	84 10 8	58-59-60	59-60
	6	Pentapád	6,469	3,149	192·16	33 10 8	16 6 2	50 0 10	58-59-60	60
	7	Amalapúr	7,834	8,069	279·16	28 1 0	28 8 9	56 9 9	59-60	60
	8	Rali	4,606	2,730	127·66	36 1 3	21 6 2	57 7 5	59-60	60
		Total	69,225	44,218	1504·67					
Krishna	1	Gudiwáda	15,595	8,871	240·33	64 14 3	36 14 7	101 12 10	1858-59	1859-60
	2	Bandur & Pedana	7,176	6,048	239·98	29 14 5	25 3 3	55 1 8	59	59-60
	3	Divi	7,578	5,377	278·98	27 2 7	19 4 5	46 7 0	59	60
	4	Kaikalúr	7,061	4,098	309·0	22 13 7	13 4 2	36 1 9	59-60	59-60
		Total	37,410	24,394	1068·29					
Trichinopoly	1	Udiarpoliam	.....	14,256	326	.....	43 11 8	43 11 8	1858-59	1857-58
	2	Ariyalur	.....	11,003	396	.....	27 12 7	27 12 7	58-59	58-59
	3	Torriyore	15,144	8,664	376	39 15 3	22 13 9	62 13 0	58-59	58-59
	4	Volcondapuram	4,725	8,263	473	9 15 10	17 7 6	27 7 4	58-59	58-59
		Total	19,869	42,186	1,574					

REVENUE SETTLEMENT OFFICE,
MADRAS, *7th March* 1861.

H. NEWILL,
Director of Revenue Settlement

APPENDIX C.

STATEMENT *showing the number and description of Boundary Marks put up by the several Settlement parties for the year* 1860.

Items.	Godavery.	Nellore.	Total 1st Party.	Krishna. 2d Party	Trichinopoly.	Salem.	Total 3d Party.	Wynaad. 4th Party	Total.
Village boundaries.									
Villages	362	15	377	448	253	281	534	6	1,365
Khandams or Sub-divisions	1,239	35	1,274	3,191	365	257	622	...	5,087
Trijuction Pillars	881	23	904	948	676	682	1,358	3	3,213
Secondary do	2,388	68	2,456	5,231	1,351	4,122	5,473	...	13,160
Other marks on village boundaries	24,777	507	25,284	6,767	22,562	14,426	36,988	591	69,630
Marks on Khandams	19,618	373	19,991	17,499	4,502	5,208	9,710	...	47,200
Field boundaries.									
Number of Villages	278	13	291	387	253	417	670	6	1,354
Villages divided into Kandhams. No. of Villages	248	13	261	368	99	117	216	...	845
Villages divided into Kandhams. Do Khandams	1,262	35	1,297	3,185	324	428	752	...	5,234
Number of fields marked	101,044	2,741	103,785	99,080	102,328	112,285	214,613	...	417,478
Do field marks	307,986	7,515	315,501	373,831	...	...	...	52,287	741,619

REVENUE SETTLEMENT OFFICE,
MADRAS, *7th March* 1861.

H. NEWILL,
Director of Revenue Settlement.

in temporary charge of the office

Compared

The full number of Amins (60) were trained by the close of April, but the newly promoted Deputy and Detail Surveyors still wanted experience.

11. The total extent of land surveyed in the Godavery District during the past year is square miles 1016 of which 676 square miles were measured as fields by the Amins.

Total area surveyed, square miles 1016 in the Taluks Tanuku and Relanghy, Nagaram, Undi, Pentapad, Amalapuram, Rali and Kota Ramachendrapuram, in fields.....	676.	46	
Traversed only.....	88 .	34	Government land.
River waste, &c.	46 .	15	
Not belonging	205.	12	To Government.
	1,016.	07	

12. The above has been effected at an expenditure of Rupees 67,792-6-11 for the items on which the Estimate was based or Rupees 66-11-7 per mile, and 1 anna 8 pice per acre. With the share of the Central Office added, the cost per mile and per acre is Rupees 71-5-11 and 1 anna 9 pice.

Expenditure.....Rs.	67,792	6	11
Per Square mile., „	66	11	7
Per acre.....	0	1	8
With share of Central Office per square mile... ... „	71	5	11
Per acre..... ... „	0	1	9

13. Intimation having been made in July that the village and field areas of the sub-division were urgently required for settlement purposes, I authorized Captain Crewe's entertainment of an extra temporary establishment by means of which the necessary information was furnished before the close of September. The data for the settlement of the highland villages of Pentapad, and of the Taluks of Nagaram and Amalapur were supplied in October and November.

Extra hands entertained to prepare survey accounts of the sub-division which were furnished to Settlement Department before the end of September. Those of Pentapad, Nagaram and Amalapur supplied in October and November.

14. The retarding causes reported by Captain Crewe are 1st, the features of the country, the Delta being every where intersected by canals, channels, streams and swamps, which, as he observes, practically doubled the distance (60 or 70 Miles) between the Taluks of Pentapad and Amalapur in which operations were carried on from May to September, and the upper Taluks presenting even more formidable obstacles to rapid progress in the clearing of boundary lines from jungle and the detached nature of the cultivation : 2nd, the unwillingness of villagers to afford information and assistance : 3rd, the scarcity of labor : and lastly, the augmentation of the party before it was prepared for it. The demarcation however has been found more complete and correct than it was last year except in lunkahs and low lands subject to inundation.

Retarding causes.

In delta channels and swamps, distance between Taluks given over for Survey, (60 or 70 Miles.)

In uplands clearing jungle, detached cultivation, unwillingness of villagers, scarcity of labor.

Demarcation more complete and correct than in 1859 except in lands subject to flood.

15. One Sub-Assistant was obliged to proceed to the Presidency with leave granted on account of illness caused by exposure, otherwise the Godavery party has been tolerably healthy notwithstanding its being employed in the low lying land of the Delta. On the whole Captain Crewe reports favorably on the conduct of the subordinates employed under him.

One Sub-Assistant obliged to go on sick leave, otherwise party healthy.

Favorable report of the conduct of subordinates.

No. 3.—*Survey Party, Krishna.*

16. It was not found practicable to carry out the order for the increase to this party to any extent till after some time had elapsed. Indeed it was found necessary to transfer from it one Assistant and one Surveyor in order to complete Captain Crewe's establishment in the Godavery District as early as possible, the reason for doing so being the importance attached to the rapid progress of the Survey in the Godavery Delta.

1 Assistant Superintendent, 1 Surveyor, transferred to Godavery.

17. It was not therefore till September that the full number of Amins and Gumastahs were employed. A combination of 60 Amins and Gumastahs to extort higher pay and promotion by the threat of resigning in a body on the recommencement of field work, if their demands were not complied with, came to light during the recess and was reported by telegram. These men having refused to return to their duty before the expiration of the two days allowed them for consideration. I deemed it necessary for the preservation of discipline to discharge them in a body. This severe step, I am happy to say, has had a good effect, and by the prompt measures adopted for obtaining men to replace them from Madras, Nursapúr, Guntúr and Nellúr, the check to field work has not been so great as might have been expected and has resulted in infinitely less injury than would have been the case had I employed half measures.

Full number of Amins and Gumastahs raised before September, combination of 60 Amins and Gumastahs to extort increased pay and promotion by threat of resignation.

Order for their dismissal, sent to Captain Pratt by Telegraph 8th November.

Effect Salutary.

Men being obtained from other places, the check to field work less than might have been expected. At present 39 vacancies thus caused have been filled up.

18. The gross out-turn of this party is approximately stated at square miles 858, of which square miles 583 were measured as fields.

Gross out-turn 858.12 Square Miles: measured in fields 583.31 square miles in the taluks of Gudivada, Bundur and Pedana, Kaikalúr, Divi, Bezwada and Nandigama.

19. The amount to be charged for this out-turn is Rupees 56,185-6-1 or Rupees 65-7-9 per square mile and 1 anna 7 pie per acre: with share of Central Office added Rupees 60,902-10-8 or Rupees 70-15-8 and 1 anna 9 pie per square mile and per acre.

Expenditure Rupees	56,185	6	1
per Square Mile.....	65	7	9
per Acre	0	1	7

with share of Central Office per square Mile Rs. 70-15-8, per acre 0 1 9.

20. Captain Pratt points out the severe strain that has been borne by his party in the large increase ordered at so early a stage of its existence as was to be expected: moreover much time was necessarily spent in correcting errors that came to light in the work performed when under organization: partial re-surveys had also to be made in the Divi and Kolair Taluks from the marks having been swept away by floods. The boundary surveys and consequently the Draughtsmen's work thus fell in arrear, to bring up which an addition to the indoor-establishment was made, and assistance rendered from the Central Office. Captain Pratt speaks in high terms of the exertions of Vanugopaul a draughtsman temporarily transferred from Madras.

Obstacles mentioned by the Deputy Superintendent. Increase to party at so early a stage.

Correction of errors discovered during the first years work.

Re-surveys required on account of the destruction of marks by floods. From the above causes, arrears in draughtsmen's work occurred.

Measures adopted to bring them up.

Draughtsman Vanugopaul detached from Central Office, highly commended by Captain Pratt.

21. With few exceptions (the principal being that detailed in paragraph 2) the persons employed in this district have given no cause of complaint by misconduct. Cholera appears to have been very prevalent and a number of surveyors have suffered from Fever. The scattered position of the Taluks under survey necessitated much travelling and diminished the efficiency of superintendence.

With few exceptions conduct of the party good: Cholera and Fever prevalent during past season.

Scattered position of taluks diminished efficiency of Superintendence.

No. 4.—*Survey party, Wynaad and Salem.*

22. For the first two months and a half of 1860, this party was employed in Wynaad and from 20th April to 16th December in the Razeepooram Taluk of Salem.

Employed till the middle of March in the Wynaad: from May to December in Salem.

From Captain F. J. B. PRIESTLEY, Superintendent Revenue Survey,

To H. NEWILL, Esq., Director of Revenue Settlement.

I have the honor to forward for submission to Government the usual Annual Report of Survey operations in 1860. My absence from Madras until the 1st of this month, and the delay in the transmission of the report of No. 4 Survey party, caused by its removal to the Wynaad, are the chief causes of my inability to forward it at an earlier date.

F. J. B. PRIESTLEY, Captain,
Superintendent Revenue Survey.

CHEPAUK, 28th February 1861.

REPORT ON THE SURVEY OPERATIONS OF 1860.

No. 1.—*Survey Party, Trichinopoly and Salem.*

On recommencing Field work 1st January 1860, this party was on the original scale, and consisted of only 40 Amins with other ranks in proportion. On the 1st March the number of Amins was increased to 60, and the party was put on the same footing as sanctioned for those in the Godavery and Krishna Districts in the order of Government 28th December 1859, No. 1799.

Field work commenced 1st January. Party not increased till 1st March to the scale sanctioned 28th December 1859.

2. The Demarcation establishment however not having been at the same time proportionately augmented, was unable to keep pace with the survey operations, and 2,611 days (representing about 300 square miles of fields) were thus lost for want of demarcation records.*

Demarcation establishment unable to keep pace with enlarged survey party: consequent loss of time.

3. The total area surveyed by No. 1 party under Captain Hessey, is 1347 square miles, of which 1123 were measured as fields by the Amins. Had they been fully supplied with work, Captain Hessey calculates the probable out-turn of his Amins at 1426 square miles, or about 60 square miles in excess of the estimate.

Total area surveyed in 1860, Square miles 1347 of which 1123 were measured as fields.

Trichinopoly District.		Salem District.	
Conad.	Taluks.	Ahtoor.	Taluks.
Vetticutty.		Paramutty.	
Manapara.		Namcal.	

Had the Amins been kept in full work their out-turn calculated at 1426 square miles, i. e. 60 in excess of estimate.

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* The Director of Revenue Settlement remarks that application was made on 25th June last, for the necessary enlargement of the Settlement party to keep pace with the Survey, and repeatedly renewed, but sanction was received only towards the close of the year. In the meanwhile it was pointed out to Captain Priestley that the employment of a part of his establishment for which field work could not be found, in working up the areas, accounts and maps of the measured Taluks, would facilitate the final settlement operations, which depend on the completion of these details, so that, while there may be a deficiency of field work as represented by Captain Priestley, it does not follow that this is a positive loss.

H. N.

4. The expenditure for the items in the original estimate is Rupees 74,568-11-4 and shows the cost to be per square mile Rupees 55-5-9, or per acre Rupees 0-1-5, adding share of the Central Office expenditure, the cost per square mile and per acre is respectively Rupees 58-13-9 and Rupees 0-1-6 or Rupees 5-2-3 per square mile less than the original estimate.

Expenditure....	74,568	11	4	
Rate per mile...	55	5	9	
„ „ acre...	0	1	5	
	74,568	11	4	
	4,717	4	7	Share of Central Office.
Total.	79,285	15	11	
Rate per mile.....	58	13	9	
Original Estimate.	64	0	0	
Difference.	5	2	3	
Cost per acre.....	0	1	6	

5. The small extra Survey party brought its work to a close in South Arcot having completed the measurement of waste lands taken up since the date of the original survey and brought up the Survey records so as to correspond with the existing state of cultivation. It has also made some progress in similar additions and corrections of the Survey Accounts in the Trichinopoly Taluks.

Extra Survey Party.

Has completed work in South Arcot and brought up Survey Records to date in the Taluks of Cuddalore, Chidambaram and Manargudi.
Correction in fields..... .....22 villages.
Maps.....104 „
Accounts.....151 „
Accounts prepared in form furnished by Settlement Department. } 158 „
Has commenced operations in Trichinopoly, Volconda Taluk.
Additional cultivation measured in 51 villages.
Accounts corrected according to Classifiers' list of 81 villages.

6. When it was evident that the measurement of interstitial fields could not be accomplished by the agency originally contemplated, Captain Hessey, with my approval, undertook the execution of this important operation in addition to the current work of the Department, and has pushed it on with energy having completed it in 251 villages. There is every prospect of the entire minor field measurement of the Trichinopoly District being completed by the end of April, if funds be granted for the purpose.

Measurement of interstitial fields undertaken by Survey Department in addition to its ordinary work.

In the Taluks of { Volconda. Torriore. Conad. Vetticutti. Manapara. } containing 529 villages.

Interstitial fields of 251 villages measured, and content computed: those of remaining villages in Trichinopoly will be completed about end of April, if funds be forthcoming.

7. I have been able to make numerous transfers from No. 1 Survey party to other districts, Captain Hessey having been careful to train a number of men in readiness to fill vacancies.

Many transfers of trained men made from No. 1 party to other districts.

8. The order in which Taluks were given over for Survey, had an unfavorable influence on the progress of this party, inasmuch as the journey from Trichinopoly to Salem Taluks of Namcal, Ahtoor and Paramutty, and from them to the Trichinopoly Taluks south of the river Cavery occupied much valuable time.*

The distant Taluks of Salem being undertaken before those in the vicinity of Trichinopoly unfavorable to rapid progress of Survey.

9. The season has on the whole been healthy and the conduct of the subordinates satisfactory. Captain Hessey brings to notice the valuable assistance he has received from his manager C. Soobrao.

Season healthy.

Conduct of Subordinates satisfactory particularly that of Manager C. Soobrao.

No 2.—*Survey Party, Godavery.*

10. At the end of January the numerical increase to this establishment, sanctioned in the Order of Government already referred to (28th December 1859), was effected partly by transfers from No. 3 (Krishna party) and partly by entertaining new hands.

Augmented by the end of January: 60 Amins trained by the end of April: Surveyors required experience.

* The Director of Revenue Settlement observes that the inconvenience alluded to unavoidably resulted from the decision arrived at during the Governor's tour, after work had been commenced in Salem, to complete the Southern part of the Trichinopoly District. H. N.

23. What was done in Wynaad at the beginning of 1860, has already been reported and briefly state that they were inexperience of the men composing the party, the deficient demarcation, and the difficult nature of the country. the various causes that prevented a larger out-turn than square miles 5·67 from being effected. I may however

Small out-turn in Wynaad (5·67 square miles.)

24. During the seven months from May to November (inclusive) the amount of work performed in the Salem District is 143 square miles at a cost 19,928 Rupees, or Rupees 139-5-9 per square mile, and per acre at 3 annas 6 pie. Adding half a share of Central Office expenditure the cost per mile reaches Rupees 158-13-1.

Amount of work during 7 months in Salem Razeepoor Taluk 143 square miles, cost for 7 months employed there Rupees 19,928.

25. The gross expenditure on account of No. 4 party including share of superintendence, is Rupees 40,501-15-7: the gross out-turn 161·94 square miles showing the cost per mile to be Rupees 250-0-2, per acre 6 annas 2 pie.

Gross expenditure.....	40,501	15	7
Per square mile.....	250	0	2
Per acre.....	0	6	2

Gross out-turn 161·94 square miles.

26. The exceptional circumstances in which this party was placed must be taken into account when considering the expensive rate at which work has been turned out, and Captain Searle draws attention to the numerous difficulties under which he labored, and enumerates non-supply of demarcation records, the inexperience of his party, the indifference with which they regarded their employment in the survey on account of the destination of No. 4 party being known as Wynaad, the prevalence of sickness, the desertion of peons and measurers, the want of the assistance of a volunteer establishment, the time lost in travelling, and the want of power and executive authority.

Exceptional circumstances to be considered.

Difficulties enumerated by Captain Searle.

27. Making all due allowances however, I see no reason to alter the opinion already expressed to the Director Revenue Settlement: and regret to state that neither the progress of survey operations nor the management of this party has been so successful as I could desire. Many of the disturbing causes having been removed, I trust that during the current year, the course of No. 4 party will be attended with better fortune.

Many disturbing causes being removed, future progress will probably be more fortunate.

28. A great number of the Stations of the former Trigonometrical Survey of the Wynaad have been recovered, and from them some minor Stations fixed, by which the operations of the Revenue Survey can be checked. Full instructions on the subject have been supplied to the Officer in charge and it is hoped that better progress will be made during the few working months of this season than was effected last year. The liberal rates of pay and travelling allowance, leave nothing to be desired under that head. The difficulties still to be contended with, are the unhealthy climate, the want of roads, the scarcity of labor, and the dearness of food; towards the removal of the two latter however the arrangements sanctioned by Government have in some degree conduced.

Trigonometrical Stations fixed and full instructions for the conduct of the Survey issued.

Rates of pay and allowances ample.

Unhealthy climate and want of roads still formidable obstacle.

29. Captain Searle states much sickness to have existed in his party. He has, I regret to say reported several of those employed under him for misconduct. One Head Surveyor has in consequence been removed.

Season unhealthy.

Several subordinates reported for misconduct. One Head Surveyor removed.

No. 5.—*Survey party, Nellore.*

30. The steps as yet taken in compliance with the order of Government dated 3d July 1860, No. 1,094, have been the entertainment of the Nellore survey class and a number of volunteers from that District and their instruction at Masulipatam under Mr. F. C. Puckle, the Officer selected for the post of Deputy Superintendent in the Nellore District. About 40 trained men have also been transferred from No. 1 party, and 10 from Nos. 2 and 3 in readiness to commence work when the order to do so is received.

Survey class and volunteers from Nellore instructed by Mr. Puckle, at Masulipatam.

40 Trained men transferred from No. 1 party and 10 from Nos. 2 and 3.

Expenditure.

Rs. 325 (Pay of Asst. Supt. for Decr.)

Lithographic Press.

31. The Lithographic Establishment on the 1st January 1861, consisted of the persons noted in the margin and worked 4 presses. The strength has been but little increased since 1859, principally on account of the insufficiency of the presses in use. The two of which the purchase was sanctioned by Government have however now been received from England and appear excellent.

1 Head Lithographer.
10 Draughtsmen.
1 Temporary do.
8 Tracers.
1 Temporary do.
1 Lithographic Writer.
4 Printers.
14 Pressmen, Inkmen, &c.
2 Muchies.
2 Peons.

New presses received from England on 22d October and 23d December 1860.

32. The abstract for the month of December showed a total of Rupees 507-3-7 or Rupees 243-12-5 less than the sum sanctioned. For the year the amount has been Rupees 6,146 against Rupees 9,012 sanctioned.

Cost of Establishment for 1860, Rupees 6,146
Sanctioned „ 9,012

33. The Maps of 472 Villages have been printed, and of them in all 15,050 copies have been struck off at the rate of 6½ annas per copy. The area represented by these Villages is square miles 485-5-7, the cost thus being Rupees 12-6 per mile. Taking the outturn and expenditure of November, however (on account of the holidays in December) the cost per square mile appears Rupees 6.

Charges not estimated, for
cost of presses, Rupees 1,868-4-8
Contingent „ 1,272-8-8

Outturn.
472 Village Maps.
15,050 Copies
per Copy annas 6½

In November 1860, the cost of per square mile Rupees 6.

34. This sum though much in excess of the original estimate Rupees 2 per square mile, shows so considerable a diminution compared with that of last year (Rupees 56), and the decrease in cost has been so steady and continued, that I feel certain, now the large presses just received have commenced work, a still further reduction in cost and increase in work will take place.

Original estimate Rupees 2 per Mile.

Cost per Mile 1859, Rupees 56- 0-0.
per copy „ 0-14-7.

1860.
First 6 Months 17 per Mile.
Third quarter 14 „ „
Last quarter 8 „ „
per copy 6½ annas.

Madras Town Survey.

35. In the Black Town Division of which the Survey is under Mr. Plumbe, he reports that during the past season 2,800 holdings with 72 streets and lanes have been measured, 7 Minor traverses comprising 4,645 holdings and 145 streets have been plotted and 2,000 holdings have been compared and adjusted with the Collector's records. 4,000 holdings as yet remain to be measured.

Black Town Division Expenditure Rs. 3,093-5-0.
Area 1042 acres of which 513 are surveyed, 314 during last season, 529 acres remain.

50. Captain Crewe, conducting the Revenue Survey of the District, in order to submit the work to some further proof performed in the Delta, measured two bases and from them determined several of the distances in question trigonometrically. The mean difference thus brought to light is much the same as that found to exist in the upland Taluks on a comparison of our work with Captain Snell's Survey, viz. 5·78 feet per mile.

Revenue Survey work further proved by determining certain distances Trigonometrically.

Result a difference per mile between them and Revenue Survey distances of 5·78 feet.

51. The Triangulation of the Krishna District seems to have been very roughly executed and the records are incomplete.

Triangulation of the Krishna District erroneous and incomplete.

52. A very great difference between the distances given in them and those computed from the Revenue Survey accounts led to an examination of the Triangulation records, and errors of such magnitude were discovered as forbid their being used as a check on the present Survey operations. Captain Pratt however hopes that in the more elevated country towards which his work is progressing the Triangulation may be found more trustworthy.

Of no use as a check on the Revenue Survey.

53. In order to learn the working of the Government Survey of Ceylon and to ascertain to what degree the system there adopted was applicable to the Wynaad Taluk of Malabar, I visited the Island and was by the courtesy of the Surveyor General Captain Sim, R. E. and his Officers, put in possession of all the information required.

Surveyor General of Ceylon afforded all information regarding the Government Survey there.

54. The system there in force though admirable can I fear never be introduced into this country on account of the enormous expense attending it. In the Surveyor General's report for 1860, it is stated that including the expenditure on account of Trigonometrical operations, the cost per acre amounts to within a fraction of 10*s*., excluding it to 7*s*. or respectively Rupees 3,200 and Rupees 2,240 per square mile.

System in Ceylon very complete but very expensive for 1860, cost per mile Rupees 3,200.

General Remarks.

55. The steady improvement made by the Department in every respect and the great advance under some heads exhibited by a comparison of the operations of last year with those of any former season, will I trust be deemed a satisfactory proof of its successful workings.

Steady improvement made during past season it is hoped will be considered proof of successful working of the Department.

56. The general results may in brief be stated as an increase of 106 per cent. in the area, and a decrease of 25 per cent. in the cost per square mile compared with 1859, the extent surveyed in the latter year amounting to square miles 1562, at Rupees 87 per square mile and in 1860, to square miles 3,221 at Rupees 66 per square mile.

General results.

Increase in out-turn .....106 per cent.
Decrease in cost per mile..... 25 do.
Compared with 1859

1859

Square miles surveyed. Cost per mile.
1,562..... .....Rs. 87 *

1860

3,221..... Rs. 66.

* This is taken from last year's Report but of the sum (Rupees 7,791) charged against 1859 for estimate measurement allowances, there remain Rupees 1,442 not required, thus reducing the cost per mile nearly a Rupee i. e. to Rupees 86. The estimate for measurement allowance 1860 Rupees 15,000 will in like manner probably not all be expended.

Statement of Comparative distances between Trigonometrical Stations observed by No 1 or Trichinopoly Survey party.—

No	Talaks	Stations	Distances By Trigonometrical Survey.	Distances By Revenue Survey	Difference	Difference per mile.	Remarks.
1	Lalgoody and Moosary	Kullagoody to Tirivingy Hill Pag	192936	192781	155	4·24	
2	—— Do —— and Toriour	—— Do —— to Cuglavaddy Hill	122825	122778	47	2·02	
3	Volcondapooram and Do.	Terrany Hill Pag to Do.	92462	92314	148	8·45	
4	Conad —— and Vitticutty	Cunnalli Rock to Rutnigherry Pag.	123555	123395	160	6·83	
5	Vitticutty	Rutnigherry Pag to- Sunkrannalli	57600	57468	132	12·10	Mean error 7·38 feet per mile.—
6	Moosary and Conad	Tirivingy Hill Pag to Cunnalli Rock	131407	131328	79	3·18	
7	Lalgoody and Do.	Kullagoody to —— Do.	110752	110534	218	10·39	
8	Vitticutty — and Moosary	Veeramalli to Tirivingy Hill Pag	96176	96045	131	7·19	
9	Vitticutty	Rutnagherry Pag to Veeramalli	60874	60735	139	12·05	

Revenue Survey Office
Chepauk
22. April 1861.

/ signed / W. Crewe Captain
Deputy Supdt. Revenue Survey
In temporary charge of the Office

(True Copy)

Sub Secretary.

57. That the continued improvement looked for by Government (Proceedings of Government 21st September 1860 No. 3247, Para. 11) has taken place in the working of Nos. 1, 2, and 3 parties employed during 1859 and 1860, is proved by the increase in out-turn being respectively for,

Improvement expected by Government in each party has taken place. Per centage of increase in out-turn and decrease in cost per mile for 1860 being per party

	Out-turn.	Cost per mile.
No. 1	+ 73	15
No. 2	+ 108	22
No. 3	+ 192	45

No. 1 party 73 per cent.
No. 2 „ 108 „ „
No. 3 „ 192 „ „

and the diminution in cost per mile being also respectively for No. 1 party 15 per cent.
No. 2 „ 22 „
No. 3 „ 45 „

58. These results are mainly due to the energy and zeal of the Officers in charge of the District establishments, Captains Hessey, Crewe and Pratt, who whilst reporting favorably of their Asistants particularly mention Messrs. * Beamont Leggatt, Wright and Durnsford.

* Compelled by ill health to proceed on sick certificate to England.

(Signed) FREDERICK J. B. PRIESTLEY, Captain,
Superintendent Revenue Survey.

REVENUE SURVEY OFFICE,
CHEPAUK,
28th February 1861.

EXTRACT FROM THE REPORT OF THE DEPUTY SUPERINTENDENT

No. 2.—REVENUE SURVEY FOR 1860.

In my report for 1859, I stated that I had been unable to ascertain the localities of any of the Trigonometrical stations, the great discrepancies existing between our distances and those of the Trigonometrical Survey having led me, in the absence of any authentic information on the subject, to doubt the correctness of the points supposed to be stations. Of the several stations pointed by the villagers in the Undi Taluk, two only—the Undi station and Sagoopad mound can be relied on. The discrepancies here proved less than in Mogultur. But on getting out of the delta where unmistakeable stations were found at the four points named in the margin, the average difference between our distances and those of the Trigonometrical Survey was only 4.34 feet per mile. Being convinced that our work in the delta is very nearly, if not quite as accurate as in the higher land, as soon as the state of the ground would permit, I carefully measured two long base lines from the extremities of each of which two of the three stations named in the margin were visible, and by Triangulation ascertained the direct distances between these stations. The difference between these and the distances obtained from our Traverse work are respectively +10.79 and —5.55 per mile, the difference between the whole distance from Palcole Pagoda to the Mogultur station being 10 feet, or at the rate of +1.01 per mile. This result, combined with the statement of the Deputy Surveyor General regarding the untrustworthiness of the Survey of the District, convince me of the general accuracy of our work.

Niddavole.
Lunjidibba.
Peatapad.
Chebrole.

Palcole Pagoda.
Mullaveram Station.
Mogultur Fort.

Deputy Surveyor General's letter, dated 14th June 1858, No. 72,346.

36. The survey of the Perambore Division was taken in hand on the 1st February 1860, and the field work brought to a close at the end of July. At the commencement Mr. Walker had charge, but the operations have been chiefly performed by his Assistant Mr. Cooke, as Mr. Walker was for some time disabled by illness and was eventually granted sick leave for two years to England.

Perambore Division.
Expenditure Rs.... 2,862 2 11.
Area 2,138 acres.

37. In Office the Sectional and Divisional Maps have been prepared and the Key Map is far advanced. The Office work that remains will be completed in about two months. The work of testing the Surveys already complete has been carried out in the Mylapoor Division and commenced in that of Pursevakum.

Office work will be completed in about 2 months.

Testing operations in Mylapoor and Pursevakum.
Expenditure Rs. 741-6-2

38. The preparation of manuscript Taluk Maps has been proceeded with, but until the exact boundaries of the Taluks as lately arranged are defined, that is to say, until the actual villages transferred are ascertained, it is not practicable to prepare them for lithography. A change in the scale recommended by me in letter dated 14th August 1860, No. 674 last, also has been sanctioned by the Board of Revenue, and pending the receipt of the decision on this point, I deemed it advisable not to press on their construction. Two however are now complete on both scales, viz., on that of 2 inches = 1 mile and of 1 inch = 1 mile.

Maps of the undermentioned Taluks complete and in course of preparation.

Chidambaram.	South Arcot.
Oodiarpolliam.	Composing the District of Trichinopoly.
*Perambaloor.	
Trichinopoly.	
Musuri.	
Kodetully.	
Gudivada.	Krishna.
Nursapúr.	Godavery.
Razcepoor.	Salem.

*Part forwarded as specimen.
Scale changed from 2 inches = 1 mile, to 1 inch = 1 mile, with sanction of Revenue Board, dated 11th January 1861, No. 197.
Oodiarpolliam and Perambaloor drawn on both scales.

39. In addition to a part of the Perambaloor Taluk Map, a specimen sheet on each scale is appended. The latter have been lithographed and printed in colors and the execution of all will, I trust, be considered satisfactory. On the smaller scale it has been found feasible to mark the boundary stations at the tri-junction of villages alone. The boundary of each village however is clearly shown.

Lithographed specimens of Taluk maps on both scales appended.

40. As already reported the additional measurement establishment sanctioned in the Northern Districts has been found beneficial and indeed indispensable on account of the paucity of village labor.

Measurement establishment sanctioned in order of Government 17th November 1859 No. 1564 and 9th June 1860, No. 953 has worked well and is still required.

41. The powers conferred under Act No. XXVIII of 1860 on the Deputy Superintendents will no doubt remove a fertile source of delay by enabling them at once to compel the attendance of village servants and ryots when necessary, instead of reporting all cases to the Settlement Officer frequently employed at a considerable distance.

Investing Survey officers with powers under Act No. XXVIII of 1860 will remove the cause of much delay.

42. A statement of the average rate of error discovered in the Revenue accounts may be considered of interest and is appended. For the districts of Trichinopoly, Salem, Godavery and Krishna it is respectively 5, 8, 34 and 18 per cent. As a general rule it is highest in land not belonging to Government and also in tracts of waste and swamp. In the Godavery District as has already been brought to the notice of Government, one great source of error in the Revenue accounts has been the arbitrary conversion of the pootty (a measure of seed) into an area of 8 acres.

Mean rate of error — in area given by Revenue Accounts.

* Trichinopoly	+ 5	per cent.
Salem	— 8	„ „
Godavery	— 34	„ „
Krishna	— 18	„ „

* In Trichinopoly the error is very uncertain ranging from 40 per cent. excess to 29 per cent. deficit.

Arbitrary conversion of Pootty one cause of error.

43. The average error in the measurements performed by Amins during the past season is given in the margin. Its trifling amount demonstrates the strict supervision to which their work is subjected.

Average error (excess) of Amin's measurement.
No. 1, Survey party + 0.86 per cent.
No. 2, " " + 2.52 " "
No. 3, " " + 1.44 " "

44. The average number of working days per month for one Amin in each district falls short of the number calculated on. For this many reasons may be assigned but in the Trichinopoly District alone does it require notice as being the result of an insufficient supply of demarcation, consequent I believe, on the necessity that existed for calling on No. 1 Settlement party to provide both Nos. 1 and 4 Survey parties with work and on the Settlement Officer in charge being compelled to relinquish his post from ill-health.

Average number of working days per mensem
less than anticipated. In Trichinopoly alone has
want of demarcation been the cause.

45. The rate at which the Amins themselves measured nevertheless in a measure counterbalanced this deficit being at an average of 74.44 acres per diem or 14.44 in excess of the estimate.

Amin's rate of daily work in No. 1 party much
in excess of estimate.

46. The duty of measuring fields below the minimum of 2 and 1 acre in dry and wet land respectively not intended in the original scheme to be performed by the Survey Department, has been undertaken by it, and some progress in the Godavery and Trichinopoly Districts has already been reported. Arrangements for having this measurement carried out in connection with the current work of the Department are in progress, but some scheme for the completion of this operation in those portions of the Godavery and Krishna Districts already surveyed, has yet to be devised, as the scarcity of candidates for employment and the time required to train men, present almost insuperable obstacles to the survey attempting to bring up the arrears left by the current work of the Godavery and Krishna Districts who were originally intended to make minor measurements under the Settlement Department

Survey of interstitial fields not originally contemplated as the duty of the Survey Department has been undertaken by it.
Some progress reported in Godavery and Trichinopoly.
Some arrangements required in Godavery and Krishna to complete arrears left by Curnums who

In Trichinopoly arrears can be brought up if funds be provided.

ence of the Settlement Department. In Trichinopoly however where no such obstacles exist all the arrears thus left can be brought up if funds be granted for the purpose.

47. The test by comparison of the distances obtained from the Revenue Survey records with those ascertained trigonometrically has as usual been applied in each District under Survey.

Revenue Survey tested by comparison with G. T. Survey.

48. In Trichinopoly where the operations of the Grand Trigonometrical Survey under Colonel Lambton were carried on and where the identification of the points fixed by him is not very difficult, this Survey has been connected with Stations. The mean error per mile is shown to be 4·62 feet per mile.

In Trichinopoly average error per mile feet.

49. In the Delta of the Godavery, the stations of the Trigonometrical Survey, executed some 40 years ago, are (as already reported) not to be discovered. The supposed sites however were duly marked and connected with the Revenue Survey. The result shows a very large discrepancy between the distances found by the two processes (47·53 feet per mile.) The Survey made by Captain Snell however is confessedly inaccurate and in addition to this there is every reason to believe that the spots at first supposed to be the points marked by him were in reality at some distance from them. This is in a measure confirmed by the fact that in the upper Taluks, where no doubt exists regarding the identity of the sites fixed on, the distances obtained by both Surveys agree very fairly the mean difference being 4·62 feet per mile.

Godavery Delta Trigonometrical stations not discoverable.

In the upper Taluks Trigonometrical stations identified and error of Revenue Survey shown to be 4·62 feet per mile.

Statement of comparative distances between Trigonometrical Stations.

No.	Taluks.	Stations.	Distances. By Trigonometrical Survey.	Distances. By Revenue Survey	Difference.	Difference per mile.		Remarks.
1	Mogultur & Nagaram	Mogultur Fort to Narsapoor Flagstaff	56,679	57,231	+552	+51.42	In the Delta.	
2	Mogultur	do. to Palcole Pagoda	51,515	52,020	+505	+51.75		
3	do.	do. to Kalipatnam (1)	36,160	35,768	—392	—57.23		(1) Station doubtful.
4	do.	Palcole Pagoda to Mallaveram	31,948	32,337	+389	+64.29		
5	do.	Mallaveram to Mogultur Fort	23,466	23,737	+271	+60.97		
6	do. and Undi	Mogultur Fort to Tader (2)	39,217	39,449	+232	+31.21		(2) do. no indication of a mound.
7	Undi and Mogultur	Tader to Palcole Pagoda	63,438	63,984	+546	+45.44		
8	Undi	do. to Yanamadurru (Amiakoder) (3)	19,876	20,063	+187	+49.67		(3) Station doubtful.
9	do.	Yanamadurru to Pratellameraka (Anookader)	43,638	44,182	+544	+65.82		
10	do.	do. to Kopalli	19,874	19,646	+ 72	+19.46		
11	do.	Kopalli to Pratellameraka	37,092	37,669	+557	+82.13		
12	do.	do. to Undi (4)	20,673	20,862	+189	+48.33		(4) A large mound.
13	do.	Undi to Pratellameraka	46,769	47,389	+620	+69.99		
14	do.	do. to Garagapurru	27,243	27,495	+252	+48.84		
15	do.	do. to Sagupad (5)	36,951	37,212	+261	+37.28		(5) do
16	do.	Sagupad to Garagapurru (6)	17,774	17,757	— 17	— 5.05		(6) Station doubtful.
17	do. and Pentapad	do. to Pentapad (7)	38,746	38,887	+141	+19.21		(7) On a hill.
18	Pentapad	Pentapad to Lunjidibba (8)	34,912	34,948	+ 36	+ 5.44	Above the Delta.	(8) do.
19	do.	do. to Chebrole (9)	51,260	51,308	+ 48	+ 4.94		(9) A large mound.
20	do.	Chebrole to Lunjidibba	66,046	66,095	+ 49	+ 3.91		
21	do. and Relanghy	Lunjidibba to Nidavole (10)	37,769	37,799	+ 30	+ 4.19		(10) Ruined bastion of an old Fort

Distances obtained by Revenue Survey

			By Triangulation.	By Traverse.			
1	Mogultur	Palcole to Mallaveram	32,271	32,337	+ 66	+10.79	
2	do.	Mallaveram to Mogultur Fort	23,762	23,737	— 25	— 5.55	
3	do.	Palcole to do.	52,010	52,020	+ 10	+ 1.01	

43. The average error in the measurements performed by Amins during the past season is given in the margin. Its trifling amount demonstrates the strict supervision to which their work is subjected.

Average error (excess) of Amin's measurement.
No. 1, Survey party + 0.86 per cent.
No. 2, " " + 2.52 " "
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44. The average number of working days per month for one Amin in each district falls short of the number calculated on. For this many reasons may be assigned but in the Trichinopoly District alone does it require notice as being the result of an insufficient supply of demarcation, consequent I believe, on the necessity that existed for calling on No. 1 Settlement party to provide both Nos. 1 and 4 Survey parties with work and on the Settlement Officer in charge being compelled to relinquish his post from ill-health.

Average number of working days per mensem less than anticipated. In Trichinopoly alone has want of demarcation been the cause.

45. The rate at which the Amins themselves measured nevertheless in a measure counterbalanced this deficit being at an average of 74.44 acres per diem or 14.44 in excess of the estimate.

Amin's rate of daily work in No. 1 party much in excess of estimate.

46. The duty of measuring fields below the minimum of 2 and 1 acre in dry and wet land respectively not intended in the original scheme to be performed by the Survey Department, has been undertaken by it, and some progress in the Godavery and Trichinopoly Districts has already been reported. Arrangements for having this measurement carried out in connection with the current work of the Department are in progress, but some scheme for the completion of this operation in those portions of the Godavery and Krishna Districts already surveyed, has yet to be devised, as the scarcity of candidates for employment and the time required to train men, present almost insuperable obstacles to the survey attempting to bring up the arrears left by the curnums, who were originally intended to perform these minor measurements under the Superintendence of the Settlement Department. In Trichinopoly however where no such obstacles exist all the arrears thus left can be brought up if funds be granted for the purpose.

Survey of interstitial fields not originally contemplated as the duty of the Survey Department has been undertaken by it.
Some progress reported in Godavery and Trichinopoly.

Some arrangements required in Godavery and Krishna to complete arrears left by Curnums who were originally intended to make minor measurements under the Settlement Department

In Trichinopoly arrears can be brought up if funds be provided.

47. The test by comparison of the distances obtained from the Revenue Survey records with those ascertained trigonometrically has as usual been applied in each District under Survey.

Revenue Survey tested by comparison with G. T. Survey.

48. In Trichinopoly where the operations of the Grand Trigonometrical Survey under Colonel Lambton were carried on and where the identification of the points fixed by him is not very difficult, this Survey has been connected with Stations. The mean error per mile is shown to be feet per mile.

In Trichinopoly average error per mile feet.

49. In the Delta of the Godavery, the stations of the Trigonometrical Survey, executed some 40 years ago, are (as already reported) not to be discovered. The supposed sites however were duly marked and connected with the Revenue Survey. The result shows a very large discrepancy between the distances found by the two processes (47·53 feet per mile.) The Survey made by Captain Snell however is confessedly inaccurate and in addition to this there is every reason to believe that the spots at first supposed to be the points marked by him were in reality at some distance from them. This is in a measure confirmed by the fact that in the upper Taluks, where no doubt exists regarding the identity of the sites fixed on, the distances obtained by both Surveys agree very fairly the mean difference being 4·62 feet per mile.

In the Godavery Delta Trigonometrical stations not discoverable.

In the upper Taluks Trigonometrical stations identified and error of Revenue Survey shown to be 4·62 feet per mile.

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		By Triangulation.	By Traverse.		
1	Mogultur	Palcole to Mallaveram	32,271	32,337	+ 66	+10.79
2	do.	Mallaveram to Mogultur Fort	23,762	23,737	— 25	— 5.55
3	do.	Palcole to do.	52,010	52,020	+ 10	+ 1.01

Extract of a letter No. 72,346, dated 14th June 1848, from the Surveyor General of India, to the address of the Deputy Surveyor General of India.

2. Adverting to your 2d paragraph, I think it necessary to mention, what you are perhaps aware of, that Colonel Lambton's operations along the coast terminated at the principal side Ragapooram to Mungalagherry, on the borders of the District of Masulipatam, in which the former is situated, the latter being in the Guntoor Circar. The Masulipatam District was triangulated by Assistant Surveyors Scott, Hamilton, Summers, the Rajahmundry District by Captain Snell. These operations are considered of a secondary character, being executed with third rate Instruments for the purpose of supplying a basis for Topographical operations. They do not therefore belong to a great series of triangulation conducted with the view to contained extension. The great Trigonometrical operations of Colonel Lambton's time properly end south of Masulipatam, although some points in that District are given in the 4th volume of the General Report, from which the positions of nine places have been extracted and are given in the enclosed lists. Seven of the nine are intersected points, which require to be used with great caution.

3. On account of apparent defects of the work in that quarter and its incomplete character, I projected, some years ago, the coast series which was designed to emanate from the Calcutta base, and terminate at a base to be measured near the Madras Observatory. That series when completed and verified will supply all that is requisite for a first class triangulation along the coast, but as you are aware, its progress has been cruelly slow, owing to the extreme insalubrity of the climate, which has paralysed the best efforts of such men as Major Thorold Hill, Mr. Peyton, Mr. Clarkson, and Major Strange, some of whom met with extraordinary success in other parts of India, but have not been able to advance the coast series with satisfactory rapidity. That important triangulation has been carried from Calcutta nearly up to Berhampore. Full and satisfactory data for the Districts of Rajahmundry and Masulipatam will not be available till the series reaches those Circars and is extended up to the Madras Observatory as well as proved by a base of verification.

(True Extract.)

(Signed) H. S THULLIER, Major,
Deputy Surveyor General of India,
In charge Surveyor General's Office.

(True Extract.)

(Signed) F. PRIESTLEY, Captain,
Superintendent Revenue Survey.

EXTRACT FROM THE REPORT OF THE DEPUTY SUPERINTENDENT

No. 3.—REVENUE SURVEY FOR 1860.

2. From Return *A* appended, it will appear that the map itself contains errors. The double distances differ from one another in many instances by amounts greatly exceeding the rate of five feet per mile allowed in the Revenue Survey. The return does not include all the errors, but only a few taken after a cursory examination.

3. Again from Appendix *B* with sketch, it will be seen that the calculations are wrong. I have calculated the angles at the Veyavaka station from the sides given in the map, and find that their sum only amounts to 359° 43′ 45″ instead of 360° showing an error of 16′ 15″. This error, if divided among the four angles at the station, would give an error in the sides opposite the angles at the approximate minimum rate of 5.8 feet per mile, and if confined to one angle to an error in the side at subtended. at the rate of 25 feet per mile.

4. As stated in my letter No. 389 dated 22d December 1859, the measurements of this Survey party are accurate in themselves, and will, within the limits laid down in the manual of surveying, the difference being only feet 1.1 and 0.48 per mile in the distances between the four stations tried, each distance being calculated from two different lines of village boundaries.

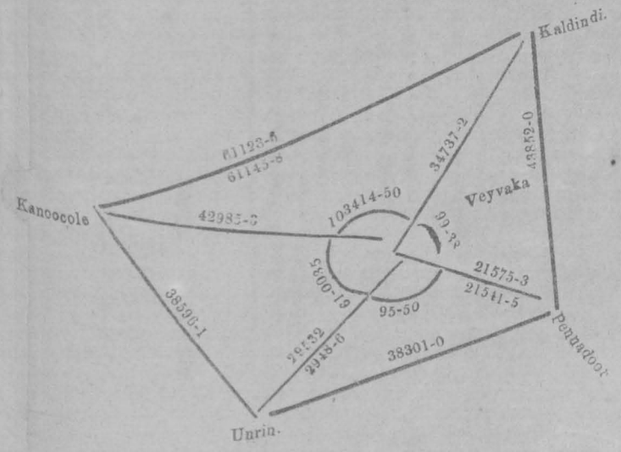
5. The Grand Trigonometrical Survey distances furnished to me having been found to be inaccurate in themselves, their errors exceeding even the limits allowed to the Revenue Survey, while the Revenue Survey measurements tested by themselves are accurate within these limits, I consider to be conclusive proof of the untrustworthiness of the triangulation in this portion of the District. In the northern and hilly Taluks, the triangulation may probably be found more correct, and I shall take steps to connect the Survey with the Grand Trigonometrical stations therein the meantime abandoning my attempts to join on to them in the low country Taluks already surveyed, pending any further instructions you may deem it fit to send me.

6. Any further errors which may come to my notice in the map will be forwarded.

APPENDIX A.

Stations.	By Trigonometrical Survey records	By Trigonometrical Survey maps.	Difference.	Difference per mile.
Vayavaka to Woorvey	29486.6	29532.9	+ 46.3	+ 8.29
do. to Penudoor	21541.5	21575.3	+ 33.8	+ 8.28
Woorvey to Machiligunta	19872.3	19781.8	— 90.5	—24.19
Nedumole to Rafarla	26086.3	26152.5	+ 65.8	+13.32
do. to Cosoortree	25986.6	25726.4	—260·2	—53.42

APPENDIX B.



Total of Angles.		
103	14	50
99	38	00
95	50	00
61	00	55
359	43	45
Error... 0	16	15

STATEMENT of Expenditure of the Revenue Survey Establishment for the year 1860.

Parties.	Area measured in square miles.	Cost per party including estimated measurement allowances.	Cost per		Total cost per party including share of Central Office.	Cost per		Lithographic Establishment.
			Mile.	Acre.		Mile.	Acre.	
1	2	3	4	5	6	7	8	9
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
No. 1 Survey Party, Trichinopoly and Salem.	1,347	74,568 11 4	55 5 9	0 1 5	79,285 15 11	58 13 9	0 1 6	.. ..
No. 2 do. Godavery.	1,016	67,792 6 11	66 11 7	0 1 8	72,509 11 6	71 5 11	0 1 9	... ...
No. 3 do. Krishna...	858	56,185 6 1	65 7 9	0 1 7	60,902 10 8	70 15 8	0 1 9	... ...
No. 4 do. Wynaad & Salem.....	162	35,784 11 0	220 14 3	0 5 6	40,501 15 7	250 0 2	0 6 2	... ...
No. 5 do. Nellore...	..	325 0 0	.. ..	... ...	325 0 0	... ...	.. ..	.. ..
Central Office.....	...	*18,869 2 4	.. ..	.. ..	... ...	... ...	.. ..	6,145 15 11
Extra Party attached to No. 1 Party.....	...	.. ..	.. ..	.. ..	... ...	.. .. ..	.. ..	... ...
	3,383	2,53,525 5 8	... .	... .	2,53,525 5 8	... ...	.. .. ..	6,145 15 11

In column 6 is shown the expenditure made up of the same items as were taken into account in the estimate given at page 321, paragraph 10, No. LIII, Selections from Government Records.

REVENUE SURVEY OFFICE,
CHEPAUK,
28th February 1861.

Chargeable to General Fund.						Grand Total.	Remarks.
Contingent charges for Lithographic Establishment including cost of 2 Presses.	Contingent charges Central Office.	Extra measurers.	Instruments.	Extra District Establishment in Trichinopoly.	Total charges to General Fund, columns 10,11,12, 13 and 14.		
10	11	12	13	14	15	16	17
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
... ...	.. ..	... ...	... ...	... ...	.. ..	79,285 15 11	Rupees 7,000 estimated measurement allowance.
... ...	.. ..	6,522 5 5	.. ..	... ...	6,522 5 5	79,032 0 11	Rupees 4,000 do. do.
... .	... ...	7,649 0 9	... ...	... .	7,649 0 9	68,551 11 5	Rupees 3,000 do. do.
... ...	... ...	... .	... ...	.. ..	.. ..	40,501 15 7	Rupees 1,000 do. do.
... ...	... ...	... .	... ...	... ...	... ...	325 0 0	
3,140 13 4	2,689 1 0	... .	4,661 3 1	... ...	10,491 1 5	*16,637 1 4	* The total expenditure of the Central Office is Rs. 35,506-3-8 of which Rs. 18,869-2-4 are divided amongst the parties.
... ...	... .	... .	... ...	2,147 13 2	2,147 13 2	2,147 13 2	
3,140 13 4	2,689 1 0	14,171 6 2	4,661 3 1	2,147 13 2	26,810 4 9	2,86,481 10 4	

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

The cost of the Survey including all the expenses entered in this statement with the exception of those incurred on account of the Lithographic Establishment, will be as follows :

Trichinopoly Party.....	61 13 10	per square mile.
Godavery do.	79 14 8	do.
Kishna do.	82 0 8	do.
Wynaad and Salem do. ..	261 5 8	do.

H. N.
Director Revenue Settlement.

STATEMENT of out-turn error and cost for Nos. 1, 2 and 3 Parties.

Parties.	Average daily out-turn per Amin.	Average error per cent. of Amin's measurement.	Average error per cent. of Revenue Accounts.	Total out-turn.	Cost per mile. Rs.	A.	P.	Remarks.
No. 1. Trichinopoly 1859	62·75	0·86	+ 5	780	69	2	8	
Do. do. and Salem 1860.	74·44		— 8	1,347	58	13	9	
	+11·69			+ 567	—10	4	11	
No. 2. Godavery 1859	35·16	2·52	34	488	90	14	10	
Do. do. 1860	42·14			1,016	71	5	11	
	+ 6·98			+ 528	—19	8	11	
No. 3. Krishna 1859	38·10	1·44	18	294	129	4	7	
Do. do. 1860	66·52			858	70	15	8	
	+28·42			564	—58	4	11	

REVENUE SURVEY OFFICE,
CHEPAUK,
28th February 1861.

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

Copy on a Letter to England
of 11th Septr No. 61 of 1862

1861 Department.

Enclosure 1 in Proceedings
of the Board of Revenue
to the Secretary to Government
Rt. D. dated 18th May 1861.
No. 2549.

R 1364/61

20th March 62

621

346 347

Letter from the Director
of Revenue Settlement to the
Board of Revenue dated 7th
March 1861. No. 372. regarding
the Settlement operations
for 1860.

Rev Survey office
Chepauk
22d April 1861

No. 427

From

Captain W. Crewe
Dy Supt Rev Survey

To

Sim Esqr
Secretary to the Rev. Board

Sir

With a view to avoid delay and by
desire of the Supt Rev. Survey I have the honor
to submit herewith a Statement of Comparative
distances between Trigonometrical Stations furn-
-ished by the Trichinopoly & No 1 Survey parties
which had not been received when Captain
Priestley's report for the year 1860 was sent in,
and to request that you will be so good as to
have it appended to that Report

2 It should, if practicable, be placed after
the close of the report ending with Para 58
and before the "extract from the report of the
Dy Supt No 2 Rev Survey."

I have the honor to be

Sir

Your Most Obt Servant

W Crewe Captain

Dy Supt Rev Survey
in temporary Charge of the Dist

Compd & D

may be submitted by Captain Priestley through the Director of Revenue Settlement for their information, showing what has been done since the commencement of the undertaking; what remains to be accomplished; and how far the original objects of the survey have been realized in a financial point of view; also the total cost incurred on the survey hitherto, and the probable amount still required for its completion.

28. In paragraph 42, Captain Priestley furnishes a statement of the average rates of error discovered in the Revenue accounts, in four of the Districts in which survey operations are now being carried on, viz., Trichinopoly, Salem, Godavery and Kistna. In Trichinopoly, the error fluctuates very much, ranging from an *excess* of 40 per cent. to a *deficit* of 29 per cent. the average of the whole being estimated at an *excess* of 5 per cent. compared with the correct areas as ascertained by survey. In Salem and the two other Districts, it falls short of the latter by 8, 34 and 18 per cent. respectively. Captain Priestley observes that as a general rule it is highest in land not belonging to Government, and also in tracts of waste and swamp. In the Godavery District, it has been shown that the chief source of error was the arbitrary conversion of the Pootty (a measure of *seed*) into an area of 8 acres.

29. The test by comparison of the distances obtained from the Revenue Survey records with those ascertained from the Trigonometrical Survey measurements has as usual been applied in each District under survey, and the result has been highly creditable to the exactitude of the former operations, the mean error detected being about 5 feet per mile. The investigation has also shown the inaccuracy of some of the Trigonometrical operations formerly conducted in the Northern Circars, a fact which is corroborated by a letter from the Surveyor General to the Deputy Surveyor General of India, dated 14th June 1848, an extract from which is appended to Captain Priestley's report. To enable the Board to ascertain how points situated beyond the limits of a single village circuit are connected with each other, without triangulation, by means of the Revenue Survey measurements alone, they request that Captain Priestley will furnish them with the details of the calculation of the distance of Tader from the Palcole Pagoda

No 538

Memos on Dam

Mr. Stokes to Para 39 of the Annual
Notes on Jos 1860 of the Assistant Com. Jos Canara
Answer, the Directors of Revenue Settlement &
Survey, the Opinion to Jos and to the Secretary to the
Govt of Revenue, the under noted Memo. Notes
& Copy of Correspondence noted in the Margin. Viz.

5 Letter of Assistant Jos Sub Collr Mangalore
dated 4th 1862 inches to the mode suggested,
& Memo of the Collector of Mangalore, relative
= memorial of Chinnappa Nair and Kinga =
= Nayaka &c.

2. The Director of Revenue Settlement & Survey
& a Memo of the Asst Com Jos Canara
= dating the Progress of the Canara Survey
operations up to 1860.

Mumdi

Revenue Settlement & Survey Office
Mr Dixon
3rd Assistt Com Jos

Director of Revenue Settlement & Survey

To
1. Lt D. Lees Engrs
Secretary to the Board of Revenue
Chief Comr

Dr 13 September 1859 Pc. 25-26
" 2 June 1860 Pc. 27-28
" 3 July 1860 Pc. 22-23
" 21 September 1860 Pc. 380-381
" 17 October 1860 Pc. 293-294
" 19 " Do Pc. 309-318
" 1 December 1860 Pc 7
" 24 December 1860 Pc. 439-444

Copy in a Letter to England
Dt 11th Sept No. 61 of 1862

1718/92 18-13

No. 346.
18-3/62

Rec'd Mangalore Oct 17

Revenue 1861 Department
Proc. of Govt for March 62.
No. 1364.

PROCEEDINGS of the BOARD of REVENUE,

Dated 18*th May* 1861.

Despatched. 7 June
Received. 8th "

Encl 3- No 1 with 1 chap
No 2 with 15 do

Lt Nineteen
Sixteen of the Lees
Chief
S. C. R. 624 20 March

No. 2,549.

Submitting for the information of Government, with remarks, the reports on the operations of the Settlement and Survey Departments for the year 1860.

W. 624.

No. 624

Proceedings of the Madras Government

March 1862.

Under date the 20th ~~November 1861~~

Read the following Pro-
:ceedings of the Board of Revenue

Submitting for the information of Government, with remarks, the reports on the operations of the Settlement and Survey Departments for the year 1860.

(Forwarded 18th May 1861 No. 2,549)

1. With the foregoing Pro-
:ceedings the Board of Revenue forward reports from the Director of Revenue Settlement and the Superintendent of Revenue Survey on the operations of their respective Departments during the year 1860.

2. The Board commence their observations by remarking on those portions of the country which having passed through the preliminary processes of demarcation, Survey and ... classification

Bd's Proc.s dt. 18-2-3

Received 15th December 1862.
from the Director of Revenue Settlement
&
the Superintendent of Revenue Survey
Board of Revenue
Cutcherry

No. 3328 of 1862.
Fort St. George, the 6th December 1862.
Enclosures 15. Nos.
Read 1863 Jan. 5.
Answered with Thanks

From 1st Lieut. Col. A. Cadell
for 1860 & Statements &c. &c.
of Revenue Survey Charts
& Plans &c. &c.
Referring to Sales &
Registry and Boundary Marks
Bazar Rates &c. &c.
Inspection of the Revenue
Survey Operations &c. &c.
Answered with Thanks
Copies to Govt.
with Mr. Sec. Maltby's
letter of 18th Inst. &c.

classification are either in process of, or ready for, settlement. In the former category may be placed the Mowangudi and Chidambram Valuys in South Arcot, and in the latter the ... western delta of the Godavery. The first, it is observed, is partially completed, and the second is, under the sanction granted by G.O. 21st June 1861 No 1231 about to be commenced upon. The remainder of the Godavery and a portion of Trichinopoly are reported to be nearly ready for similar treatment.

Director's Report 4th March 1861 Para 3.

3. Though certain modifications in the existing Settlement Establishments and in mode of procedure were sanctioned by Govt during the year under review they were too late to affect the results of 1860, but they will doubtless cause consiederable

Director's Report pp. 5-6.

G.O. 21st Sept. 1860 No 1693.

Bd's Proc. p. 4.

Para 8.

considerable alteration in the current year. As in 1859, so in 1860, there were four parties

1st Godavery & Nellore
2nd Kistnah
3rd Trichinopoly & Salem
4th Wynaad

In these with the exception of Wynaad the progress has been satisfactory. In that District the cost of the work performed is out of all proportion with the extent acted upon. The circumstances of the country are peculiar as has been often noticed, & the Govt echo the hope expressed by the Bd that "the operations of the present year will exhibit very different results."

4. The expenditure on Settlement operations may be contrasted as follows for the two years 1859 & 1860.

Names	1859	1860	Remark
	Rs	Rs	
Godavery	55,295	50,989	The figures in column 2 are taken from the Board's report on the operations of 1859
Krishna	50,404	58,705	
Trichinopoly & Salem	55,535	61,031	
Wynaad	7,805	31,586	
Central Office.	59,425	62,706	
	2,28,464	2,71,007	

while, excluding Wynaad as exceptional, and including a proportional share of the cost of the Central Office, the number of square miles got over by each party, and the rate per square mile appear as follows.

Demarcation		Classification		Rate per S. mile	
1859	1860	1859	1860	1859	1860
S. miles	Sq. miles	Sq. miles	Sq. miles		
Godavery including Allere	1044	1043	713	995	R. A. P. R. A. P. 83.1.0	71.5.5
Kistnah	985	1402	597	1593	81.10.5	49.14.5
Trichinopoly with Salem	948	1787	1300	2010	93.8.0	40.5.0
	2978	4232	2770	4084		

This shows prima facie a considerable reduction in cost: but, as observed by the Board (para 10) the areas being in both cases based on the revenue accounts which are known to be inexact the actual cost cannot be determined.

5. Under the circumstances adduced in para 11 Govt consent to let the question alluded to therein stand over till the result of the present year's operations are reported. Even if the result favors the Directors expectations it must then be determined whether an additional grant over & above the estimated cost of the survey and Settlement will have to be obtained to meet the cost of the English & Vernacular Registers referred to in para 22 of Mr Ravenshaw's report.

6. The arrangements alluded to in paras 12 of the Boards' Proceedings under review relative to the mode in which the Shenaroy Hills are being treated as regards Survey are approved.

7. The Board next proceed (paras 15–23) to review the Survey operations. Five parties are alluded to – but the one at Vellore was only in its infancy at the close of the year under

under review & no work had been performed. The character of that in Wynaad was, as has already been described in resuming the settlement operations, of an exceptional nature, the cost of the work done being excessive; while in the remaining three, in spite of obstacles especially in the two first, Godavery & Kistnah, a creditable advance has been made over the previous year.

8. The following statement shews the work done in 1860 as compared with 1859.

Parties	Square miles surveyed		Average cost per Sq: mile					
	1859	1860	1859			1860		
Godavery	488	1,016	90	4	0	71	5	11
Kistnah	294	858	129	4	5	70	15	8
Trichinopoly and Salem	780	1,347	69	2	9	58	18	9
Total	1562	3,221						
Wynaad		162				250	0	2
Grand Total	1562	3,383						

× Godavery Kistnah Trichinopoly & Salem

× 646
553
112.3
2382

9. The total expenditure in the Survey Department was, inclusive of the Lithographic Establishment & contingencies, Rs. 2,86,181-10-4. It is observed however that out of the 3321 square miles surveyed by the three first parties, 2382 only were in detail of fields, while the rate of pay is calculated on the larger amount which cannot be considered as completed. Notwithstanding this discrepancy the Govt. fully concur with the Board in considering the result extremely gratifying, and they look forward with confidence to a further diminution in the rates during the current year.

10. For the Godavery and Trichinopoly parties the additional funds sanctioned by G.O. 28th December 1859 of Rs. 1,77,1, were entertained early in the year. The full amount allowed for each party by that order was however

Hire

however not been expended.
The results noticed above shew
that Major Priestley did not
err in calculating the outturn
of the first year in the north
at 1000 square miles for each
full party (vide para 6 of the Order referred
to above.) In the Hishnah
party the increase was not
made till towards the close
of the year and special oc-
:currences noticed in para 14
of the Superintendent's report
prevented the change from
having any effect on the
outturn.

11. The recent orders
on the Wynaad Survey and
Assessment render it unne-
:cessary to remark further
on the Superintendents report
as far as it affects this locality.

12. Major Priestley's ac-
:count of the progress made
in the preparation of Maps is
encouraging. The Govt concur
in the Board's commendation
of

G.O. 21st Octr 1861 No 2015.

Bds Pro: pr. 24-26

Para 27.

Para 28.

of the specimen of Taluq map
transmitted. As to those of
villages, also submitted with
Mr. Nevill's Memorandum
of the 3rd April 1861, im-
:provement seems possible.
The great decrease in cost
over the previous year 1859
makes it tolerably certain
that the original estimate will
before long be found to suffice.

13. The Board's call for a
full report on the Madras
Town Survey is approved.

14. The observations on the
average rate of error in the
revenue accounts are inter-
:esting, ~~vague in detail in~~
~~the several Districts under~~
~~survey~~

15. The Governor in Council
desires that in the report for
~~1861~~
~~current year~~ a full account of the
Sta-

state of the case as regards the survey of intersticial fields may be laid before him. I know paras 6 and 46 of the Supt.s report he observes that this duty has been undertaken by the Survey Dept.t though not originally intended for them.

15. His Excellency in Council desires to express his gratification at the decided improvement which has been effected in 1860 in both Depts.ts of Survey and Settlement & which must be ascribed to the continuous exertions of the officers employed; he coincides with the Board in their expression of acknowledgments to these Gentlemen.

Report on the subject of intersticial fields has been received since this was Drafted. This para has therefore been taken out

14 Copies to the Bd of Rev Comrs
13 " Dr of Rev Settlt
7 " Supt Rev Survey

" Supt of Returns

50 15

Settlement & Survey reports for 1860.

Revenue 1862 Deptt.
Pro: of Govt for March.

N: 624.

Pro: of the Madras Govt:-
Dy 20th March/62.

Passing orders on Board's Proceedings submitting reports on the operations of the Settlement and Survey Deptts for 1860.

Copy in a Letter to England
Dy 11th Sept. N. 61 of 1862