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MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

Revenue DEPARTMENT

G.O. No.	<u>591</u>	Press
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Dated	<u>9-5-1876</u>	196

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No. 70. Read the following Proceedings of the Board of Revenue, dated 5th April 1876, No. 922:—

Read the following letter from Colonel F. J. B. PRIESTLEY, Superintendent of Revenue Survey, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Chepauk, 22nd December 1875, No. 3,789-171:—

I HAVE the honor to submit the annual report on the Revenue and Topographical Survey and Demarcation operations during the official year 1874-75. Notwithstanding that the submission of this report has been delayed in order to furnish the information called for in

* Dated 18th January 1876, No. 97. Proceedings,* Board of Revenue, it is regretted that the returns are still incomplete.

ENCLOSURE No. 1:

Report on the Revenue Survey and Demarcation of the Madras Presidency for 1874-75.

No. 1 Survey Party.—Under the orders of Captain J. G. Choate, Deputy Superintendent, Revenue Survey. The field establishment of Coimbatore, Salem, Trichinopoly, Malabar and Nilgiris. No. 1 Party has been employed during 1874-75

in eighteen taluqs of five different districts. In the Coimbatore District, in surveying district boundaries and in ordinary Revenue Survey work.

2. In the Salem District, in surveying district boundaries, topographical survey of Zemindaries and of tracts of Government land formerly excluded from Revenue Survey, and in revision of the topographical map of Government villages.

3. In the Trichinopoly District, in revision of the topographical map of Government villages and in surveying the Pachamalai Hills and Malayalatti Forest, hatching and preparing railway station maps.

4. The progress of work during the year is shown below:—

	SQ. MILES.
1. Boundaries surveyed	819
2. Fields measured	179
3. Do. plotting completed	599
4. Topographical details inserted	1,539
5. Maps sent to Central Office	1,080
6. Minor circuits traversed	No. 1,823

5. In addition to the above, about 1,532 square miles of taluq mapping executed some years ago have been revised in the field and brought up to date.

6. A portion of the Belirungam Hills (area 12.25 square miles) near the Mysore boundary has been surveyed at the request of the Collector of Coimbatore, and the survey of the leased forest on the Pachamalais, area 27 square miles, has been completed. The topographical survey of the bed of the Cauvery River on the scale of 4 inches = to 1 mile had been undertaken and is nearly completed. The five forest blocks at Malayalatti near the foot of the Pachamalai Hills have been completely demarcated and surveyed as directed in Proceedings, Board of Revenue, No. 1,872, of 18th September 1873.

7. Six railway station maps are in progress.

8. The survey and mapping of the Dharapuram Taluq have been completed, and these processes in Caroor are fast approaching completion.

9. In the Malabar District, 79.48 miles of road survey have been executed in accordance with the wishes of the Board of Revenue, (No. 2,101, of 5th August 1874).

Proceedings of the Madras Government, Revenue Department,
May 1876.

10. The true boundaries of districts, when such boundaries ran over hills or through tracts not brought under the operations of the Revenue Survey, had in many instances been left unmarked and unsurveyed. Two lines between Coimbatore and Malabar Districts, about 37 miles in length, have been surveyed. The whole of the boundary between Mysore and the Salem District, 98.46 miles in length has been marked and surveyed; 6.39 miles also of the South Arcot boundary where it adjoins Salem on the Coiroy Hills have been surveyed.

11. The cost of topographical survey in zemindari lands has been Rupees 42 per square mile for completed work.

12. The work has during the year been connected with five Great Trigonometrical points, and the average error per mile is 9.53 feet.

13. The Revenue Survey work in the five districts mentioned in paragraph 1 has been connected with no less than eighty-two G. T. stations. The average error per mile is + 7.99 and - 9.22 feet.

14. No fines have been inflicted under Act XXVIII. of 1860.

15. The season has been favorable at head-quarters and in the more open parts of the districts, but many of the Boundary Surveyors and all the Topographical Surveyors employed in jungle and hilly tracts have suffered from fever. Part of the country may without exaggeration be described as the most feverish and most difficult in Southern India.

16. The conduct of the subordinates in general has been good.

17. The party has been inspected by the Superintendent more than once.

18. The expenditure has been Rupees 95,481-12-8 as shown below:—

	RS.	A.	P.
Coimbatore	69,186	10	6
Salem	18,651	7	10
Trichinopoly	6,689	0	3
Malabar	954	2	1

19. Nilgiri Hill Survey Detachment from No. 1 Party.—The Nilgiri Demarcation and Survey detachment was principally employed in Todanaad from the end of Wynaad working season to the commencement of the south-west monsoon and in Paraganaad on the eastern side of the Hills from June to September.

20. The amount of work performed is given below:—

	Demarcated.	Surveyed.	Plotted.	Detailed.
Putta Lands	1,000	469	1,466	895
Government Reserve	100	96	81	51
Minor Circuits	108	108	54	...
Waste Land Blocks	18	16	16	12
Quit-rent Properties	17	19	22	8
Cultivation Boundaries	6	4	5	7
Roads	2	2	4	...

21. As ordered in G.O. No. 1,159, of 4th October 1873, the eastern boundary of Mr. Oncherlong's estate was marked and surveyed for a distance of 11.50 miles. The connection of the boundary line with Nilgiri Peak by triangulation remained to complete the work.

22. The area of estates surveyed during the year is 27.81 square miles. The extent detailed is 15.15 square miles.

23. Fifty-three maps of estates, &c., have been completed and lodged in the Central Office.

24. Nine-thousand eight-hundred and ninety-seven marks have been erected.

25. Under the head of Advances on account of Demarcation, Rupees 37-2-4 remain collected.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

23. Three independent trigonometrical stations were fixed on the Wynaad and the average error per mile is 7.66 feet. Since the commencement of the survey on the Wynaad, the work has been connected with 11 points and also with 11 points fixed by triangulation based on G. T. work.

24. There has been no sickness on the Hills, but the work was very much impeded by continued rain.

25. The conduct of the subordinates has been fair.

26. The expenditure has been Rupees 26,065-8-9.

27. Wynaad Survey Detachment from No. 1 Party.—During the short working season in Wynaad the main body of the detachment was employed in the demarcation and survey of paddy flats south of the Sultan's Battery, Marayur, and east of the road from Marayur to Cheramkode, also in marking and surveying Cheramkode Estate boundaries, and in inserting details in estates near Gudalur and Nellialum.

28. Surveyors were also detached for the survey of the Padri Forest near Manantyal and to complete the survey of the Nellari Malai Estate.

29. The progress made is as follows:—

	Demarcated.	Surveyed.	Plotted.	Detailed.
Paddy Flats	125	26	6	2
Minor Circuits	57	55	66	45
Estate Boundaries	25	30	30	41
Town Lots	12	12	...	...
Waste Land Blocks	...	6	7	10
Cultivation	...	17	15	21
Roads	4	4	2	...
Forest Department Blocks	1	...	...	...

30. (The area of estates surveyed is 9.67 square miles and the extent detailed is 18.25 square miles). A portion of the district boundary between the Nilgiris and Wynaad, about twenty miles in length, has been marked out and surveyed.

31. In the Nellambur Valley, twelve minor circuits to express and demarcated and surveyed by men of the detachment. Details have been inserted in twenty-four properties.

1. Estate Maps.....No. 20
2. Waste Land Blocks....." 6
3. Forest Department Blocks....." 8

32. Plans specified in the margin have been collected and sent to the Central Office.

33. During the year amount advanced was Rupees 35-12-0 against 388-4-5 recovered. At the close of 1874-75 amount of advances outstanding was Rupees 3,526-8-5; of this sum bills for Rupees 1,088-9-1 have been sent out.

34. The men have all suffered more or less from fever as usual. Their conduct has been fair.

35. The expenditure has been Rupees 21,590-1-6 as shown below:—

	RS.	A.	P.
Wynaad	20,065	8	9
Nellambur	1,024	8	5

36. Shevaroy Hill Survey Detachment from No. 1 Party.—On the Shevaroy Hills eleven waste land blocks were surveyed, six Malialli villages were being demarcated and surveyed in fields, at the request of the Collector of Salem. The field work was approaching completion.

37. The amount of work performed is given below:—

	SQ. MILES.
1. Boundaries surveyed	102.78
2. Fields measured	1.43

38. The work in the plains had been connected with the Shevaroy by the Ghauts, and squares were being prepared for hill-sketching.

Proceedings of the Madras Government, Revenue Department.
9th May 1876.

67. The survey of the Cumbum and Marripur Taluqs has been completed, and the Adoni Taluq, which had in not been necessary, owing to want of funds, to discharge the outturn during the year, has been completed, with that of the previous year under the combined system.

69. The Revenue Survey work has been connected with five Grand Trigonometrical stations during the year. The average error per mile is 7.91 feet.

70. Since the commencement of work by No. 2, Revenue Survey, it has joined its work to no less than thirty-five G. T. points in the districts of Godavery, Kurnool and Bellary. The average error per mile is + 6.12 and - 7.23 feet.

71. No great delay has been inflicted by Revenue Survey Officers under the Boundary Act. The season has been on the whole unfavorable. The rains have been exceptionally heavy and caused very serious delay to work in Adoni. In the Kadri Taluq of the Cuddapah District the men have suffered from fever.

73. The conduct of the subordinates has, with a few exceptions, been satisfactory. The party has been inspected by the Superintendent.

75. The expenditure has been Rupees 85,465-10-7, as shown below:

Kurnool	534
Kistna	1,798 6 2
Bellary	4,962 11 0
Cuddapah	9,170 2 9

No. 5, Demarcation, part of No. 2, Revenue Survey Party.—No. 5, Demarcation Party, a part of No. 2, Revenue Survey, has been employed during the year in demarcating the true boundaries of the taluqs named in the margin, in the Kistna District, in ordinary disputes of the boundary of the Sundoor Zemindari in accordance with G.O. of the 10th January 1874, No. 10.

77. The progress made is as follows:

1. Boundaries demarcated	SQ. MILES.
2. Plans do.	174
3. Do. in progress	371
4. Sketches handed over	43
The expenditure has been in—	232

Establishment	RS.	A.	P.
Stones	25,346	9	8
	63	14	8

79. During the year the following marks have been erected:—

Boundary stations	290
Division do.	4,596
Field do.	105,150

Out of thirty-one disputes reported, twenty-five were settled by the Survey Officers, five were referred to the Revenue authorities, and one was left undisposed of at the close of 1874-75.

81. No advances have been made for stones.

82. The season has been unfavorable. The conduct of the subordinates generally has been satisfactory.

83. The party has been inspected by the Superintendent.

84. General Remarks.—There is no regular demarcation establishment attached to No. 2, Revenue Survey. The Superintendent was anxious that on the completion of the survey of the Kurnool District, the men should be trained in demarcation, and that the Bellary District should be the next taken up by his department.

Proceedings of the Madras Government, Revenue Department.
9th May 1876.

85. The Adoni Taluq was in consequence completed. The party was worked on the combined system.

86. The Government in G.O. No. 796, of 28th June 1874, desired that the survey of the Cuddapah District should be expedited, and that the party then employed in the survey of the Cuddapah District should be transferred to the district. The demarcation of Kadri Taluq has been previously been completed by the Settlement Department. The sudden stop to the progress of work in Adoni has in some degree injuriously affected the outturn for the year.

87. No. 3, Survey Party.—Survey operations have been carried out in the taluqs named in the margin by No. 3 Party under the orders of Mr. F. C. Puckle, Deputy Superintendent, Revenue Survey. During the month that Mr. Puckle was absent on privilege leave, Lieutenant Colonel Hessey held charge of the party.

1. Sidout, Budwal.
2. Pullampet.
3. Poyachoty.
4. Pulivendla.
5. Volpad.

88. The first two taluqs have been completed in all respects. Pullampet is also complete with the exception of some hill ranges of about 200 square miles now under survey. In Poyachoty, the field area is ready for settlement. The field survey and boundary survey of Pulivendla have been completed.

In Volpad Taluq which is under survey, there are several small valleys containing very small and irregularly shaped fields. Inam and Ayan lands being largely interspersed, clubbing for survey purposes is rarely practicable. The Amin's work is tedious and is often left incomplete till valuable crops have been removed. The Deputy Superintendent reports that almost two-fifths of the demarcated lands cannot be measured by chain only, but must be marked out with stations and surveyed as minor circuits.

90. The outturn has been as follows:—

1. Boundaries surveyed	SQ. MILES.
2. Field measured	452
3. Do. plotting completed	478
4. Details inserted	1,137
5. Maps sent to Central Office	1,275
6. Do. of Taluq do.	1,365
7. Minor Circuits traversed	No. 2,407

91. Besides the above eleven main circuits, consisting of 3,497 stations, have been surveyed as well as the boundaries and khandams of fifty-five villages containing 330 square miles not returned complete until their minor circuits are also surveyed. About 4 square miles of hill surveys have been done in Pulivendla to expedite the completion of the sheets of the district map.

92. In fourteen villages, minor circuits and dividing lines, aggregating 320 stations and 26,950 offsets, have been laid out and separate sketches for these circuits have been prepared. It was found impracticable to enter them on the old demarcation sketches which were already much defaced and in very bad condition when received from the Settlement Department.

93. Two railway station maps have been completed.

94. Twenty-nine khandams, containing on an average 2,440 taks each, have on account of the minute holdings been plotted on the 32-inch scale, and then reduced and entered in their proper places on the village maps of 16 inches to the mile.

95. The Revenue Survey work in the district has been connected with eight stations of the Grand Trigonometrical Survey in the Pulivendla Taluq, but the average error per mile cannot be given, as traverses have not yet been received for examination.

96. Since the commencement of the survey the work has been connected with G. T. by points by No. 3 Party as given below:—

In Kistna District	25
„ Cuddapah do.	12

The average error per mile is $\times 2.81$ and -5.56 .

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

97. Under Act XXVIII. of 1860, forty-three offenders have been fined, in all Rs. 159-0-1.
98. The season has been unhealthy. The total loss of time by casual sickness in the year was 4,634 and in the office 2,683 days.
99. The conduct of the subordinates has been highly satisfactory.
100. The party has been inspected by the Superintendent.
101. The expenditure has been Rupees 1,07,344.

102. *General Remarks.*—No. 3 Party is the only one which is working on the combined system. For a long time the party worked under considerable disadvantages. From several causes which formed the subject of much correspondence, an enormous accumulation of office arrears retarded the progress of work. The field branch of the party has been raised to more than 1,000 men. The outturn during the year is considerable, but may be expected to be exceeded in the current official year. There are no longer any arrears of office work to hinder progress; certain additions and alterations that have to be made to the demarcation performed by the Settlement Department are the only impediments to rapid progress.

103. *No. 4. Survey Party.*—No. 4, Survey Party, was employed in the districts of Tinnevely, Madura and Trichinopoly under the orders of Mr. H. Gompertz on 1st November 1874, when Colonel W.H. Hessey, Deputy Superintendent, Revenue Survey, assumed charge.
Tinnevely ... Sankaranayanarcovil ... Completing the Maps of Settlement villages and demarcating the boundaries of several Zemindaries.
Madura ... II. Periacolum ... Surveying in detail Government villages in the first-named taluq and Zemin villages in the last two estates.
Trichinopoly ... III. Trichinopoly District ... Completing the survey of Zemindaries.
Kulittalai Taluq ...

104. A survey of the tract of land about 1-33 square miles in dispute between Government and the Zemindar of Kanivady has been completed, and a map furnished to the District Judge of Madura. The survey of the boundary between the Travancore State and Tinnevely District had been commenced, and was in progress. Nearly seven miles had been surveyed at the close of the year.

105. The outturn is as follows:—

	SQ. MILES.
1. Boundaries surveyed ...	181
2. Fields measured ...	288
3. Fields plotting completed ...	301
4. Details inserted. { 16 inches 373 4 1/2 and 1 inches 158 }	931
5. Maps sent to Central Office ...	1,260
6. Minor Circuits traversed ...	No. 754

106. In the Tinnevely District, 5-5 linear miles of boundaries of Zemindaries have been demarcated and surveyed and maps have been lodged in the Central Office. The survey of the range of hills adjoining Travancore is the only portion wanting to complete the district.

107. The survey of the Periacolum Taluq as far as field measurement is concerned was almost completed at the close of the year under report.

	By Survey.	Fields measured.
Periacolum ...	SQ. MILES.	SQ. MILES.
Bodinaickanur ...	262	278
Guntamanaickanur ...	69	74
	58	85
Total ...	389	437

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

108. The Survey had many difficulties to contend with, the chief being the ignorance of the Curnams, the difficulty in procuring labor, the opposition of the Zemindari ryots, and the disinclination to purchase stones.

109. No fines have been imposed for non-attendance on the survey.
110. The whole of the traverses of the Periacolum Taluq have not been run and no test by Grand Trigonometrical Survey has therefore as yet been applied.
111. The work of No. 4 Party has, however, been connected with thirty-three G. T. stations in former years and the average error per mile is + 4-81 and - 11-30 feet.
112. The season has not been favorable many men in the Guntamanaickanur Zemindari reported sick.

113. There have been few gross cases of misconduct.

114. The expenditure has been Rupees 62,807-9-8, as shown below:

	RS.	A.	P.
Tinnevely ...	27,729	13	3
Trichinopoly ...	3,516	15	4
Periacolum ...	24,10	4	6
Bodinaickanur ...	4,81	2	7
Guntamanaickanur ...	2,652	6	0
			credited to Government.

115. *No. 4. Demarcation, part of No. 4, Revenue Survey Party.*—No. 4 Demarcation.—This party, which is a part of No. 4, Revenue Survey, has been chiefly engaged in the Government villages of the Periacolum Taluq and in the Bodinaickanur and Guntamanaickanur Zemindaries situated in the same taluq which are being demarcated in detail.

116. The preliminary sketch of the Melur Taluq has been commenced. The demarcation of boundaries of Zemindari estates situated in the Sankaranayanarcovil, Stredevilliputtur and Sattur Taluqs of the Tinnevely District has occupied a large detachment for some months.

117. The amount of work performed is given below:—

	SQ. MILES.
1. Boundaries demarcated ...	346
2. Fields do. ...	208
3. Do. in progress ...	175
4. Sketches handed over ...	265

118. The expenditure has been on—

	RS.	A.	P.
Establishment ...	17,322	0	1
Stones ...	206	10	7
			2 1/2
119. The number of marks erected are as follows:—			2,411
Boundary stations ...			8,043
Division do. ...			143,193
Field do. ...			

120. Thirty-nine disputes have been settled during the year. Of these, three have been disposed of under the Boundary Act.

121. In sixteen cases, fifty-four persons have been fined Rupees 146 under Section 4 of Act XXVIII. of 1860. Under Section 9, one case occurred. This was tried by the Deputy Magistrate of Periacolum Taluq, and the offender fined.

122. No advances on account of stones have been made to ryots.

123. The season has not been healthy.

124. *General Remarks.*—Funds being required by the Superintendent for Nos. 2 and 3 Survey Parties, the allotment of No. 4 Party has been smaller than usual; notwithstanding this it has been worked on the combined system. Considering the small sum at the disposal of the party, the amount of work performed cannot be considered unsatisfactory. It has completed the Revenue Survey work proper of the Tinnevely District, and has also completed the topographical survey of Zemindari tracts situated in the plains. It must wait for the completion of the

*Proceedings of the Madras Government, Revenue Department,
9th May 1876.*

settlement of the boundary between Tinnevely and Travancore before the survey of the range of hills to the west of the district can be carried out in a satisfactory manner.

125. No. 5. Survey Party.—No. 5. Survey Party, was employed in the North Arcot District in the taluqs named in the margin, under the orders of Mr. W. Beaumont, Deputy Superintendent, Revenue Survey.

126. The survey of the Arcot Taluq, containing 431.52 square miles, has been completed.

127. In the Wallajah Taluq, the field measurement has been brought to a close except in three villages, and the boundary and topographical surveys are both approaching completion. In nineteen villages of the Vellore Taluq, there are arrears of field survey. The boundary and topographical surveys are progressing. Work is being carried on in the Polur Taluq on the combined system by a large party. In the last mentioned taluq, Guriattum, a small detachment has been employed in surveying the villages within a radius of one mile of the two railway stations demarcated by the Revenue Settlement Department.

128. The topographical survey of Kalastri Zemindari, on which a strong party has been engaged, would have been completed at the end of the official year under report, but for an unsettled dispute between the Zemindari and the Chendragherry Taluq.

129. The amount of work performed during the year is given below—

	SQ. MILES.
1. Boundaries surveyed	860
2. Fields measured	467
3. Do. plotting completed	472
4. Details inserted... { 16 inches 337 } 940	
5. Maps sent to Central Office { 4, 2, and 1 inches... .. 603 }	
6. Minor Circuits traversed	1,341
	No. 3,441

130. In the Nellore District, the topographical survey of Velikonda Hill, lying within the taluqs of Atmakur and Repur and of the Vencatagherry Zemindari, has been completed. The survey of the line between the Vellore Taluq and the Salem District has been with great difficulty finished. Forty-four out of forty-nine subordinates detached for this duty have suffered from fever of a bad type, and five of them have died. Between the Polur Taluq and the above-mentioned district, the survey of the boundary line chiefly on the Javadi Hills has also been completed.

131. Besides the survey of the two railway stations already mentioned, and of five stations as per margin in the Karvetinuggar Zemindari, the maps of the railway stations named below have been completed.

1. Chinnampett.
2. Tritany.
3. Naggary.
4. Pattur.
5. Poody.

Vellore Taluq.	{ 1. Verinjipuram.
Sydapet do.	{ 2. Ambur.
Chingleput do.	{ 1. Sydapet.
Madurantium do.	{ 2. Adambakum.
	{ 3. Adayar.
	1. Vandalur.
	{ 1. Madurantium.
	{ 2. Acharavakam.

132. Two lines of railway, one of thirty-four miles running through Karvetinuggar Zemindari, and another of sixty-three miles from Sydapet to the boundary of the South Arcot District have been surveyed during the year under report.

133. A shrothiem village named Pallam, belonging to the Kalastri Zemindari, has been demarcated and measured at the expense of its proprietor.

134. The Revenue Survey work has been connected with six Grand Trigonometrical stations. The average error per mile is 7.75 feet.

*Proceedings of the Madras Government, Revenue Department,
9th May 1876.*

135. Since the commencement of work in No. 5. Party, the Revenue Survey has been connected with ninety-four Great Trigonometrical stations, as under—

Nellore District	45.
Chingleput do.	39.
North Arcot... ..	10.

The average error per mile is + 9.50 and - 7.29 feet.

136. Assistance in the way of trained field and office hands has been rendered by this party to Coimbatore, Cuddapah and Coorg Taluqs.

137. It is reported that the season has been very unfavorable particularly in the Vellore Taluq on the Javadi Hills and in the Kalastri Zemindari. The field hands have suffered much from sickness. Out of 365 men who were reported sick, fifty-four were granted leave of absence, twenty-two absented themselves without leave, fourteen resigned their appointments, and twelve died.

138. The conduct of the subordinates has been good.

139. The expenditure has been Rupees 86,901-0-7 as shown below—

	RS.	A.	P.
Chingleput	392	7	5
Nellore	1,555	8	10
North Arcot	84,953	0	4

140. The party has been inspected by the Superintendent more than once.

141. No. 1. Demarcation Party, attached to No. 5. Revenue Survey Party.—No. 1. Demarcation.—The party has been attached to No. 5. Revenue Survey, and has been under the executive charge of Captain Liardet, Assistant Superintendent.

142. Work has been carried on under the combined system in the following taluqs:—

- (1.) Wallajah.—Completed in every respect at a cost of Rupees 52 per square mile.
- (2.) Vellore.—Approaching completion.
- (3.) Polur.—Work is being carried on by a large party.
- (4.) Wandiwash.—The preliminary sketch of the taluq has been made and the necessary arrangements for the supply of stones have been completed.

143. The subjoined statement shows the progress of work during the year:—

	SQ. MILES.
1. Boundaries demarcated	1,210.
2. Fields do.	435.
3. Do. in progress	42.
4. Sketches handed over	562.

144. The line of boundary between the Polur Taluq and the Salem District running chiefly on the Javadi Hills has been demarcated up to the junction of the South Arcot District as also the line between Wandiwash and Arnee Jaghire. In the Zemindaries named marginally, an area of nearly 528 square miles has been demarcated for topographical survey.

145. The Deputy Superintendent reports that the cost of demarcation of the Vellore Taluq will not exceed Rupees 35 per square mile.

146. The expenditure has been on—

	RS.	A.	P.
Establishment	27,762	3	
Stones	3,996	10	

The latter sum includes a charge of Rupees 19-2-10 incurred on account of demarcation of waste lands laid out in fields.

147. The number of stones of all kinds erected during the year is given below—

1. Boundary stones	4,186
2. Division do.	10,443
3. Field do.	429,441

148. Two cases have been settled under the Boundary Act, and 652 disputes of minor importance have been adjusted under Demarcation Rules.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

149. Stones valued at Rupees 54-10-8 have been supplied to certain ryots in the Wallajah Taluk, in order to avoid delay in the completion of work in certain villages. A sum of Rupees 2,399-11-9 has been recovered by the ryots or Chingleput on account of advances made in former years. Rupees 211-9-9 advanced on account of Arcot Taluk have been recovered and adjusted.

150. Fines, amounting to Rupees 14, were levied under the Boundary Act on nine offenders.

151. The season has been very favorable for work, and the conduct of the subordinates has been good.

152. *General Remarks.*—A large amount of work has been done on the combined system by this party.

153. The Deputy Superintendent has been most successful in reducing the cost of demarcation. It is to be expected that during the current official year the cost will be still further reduced.

154. The Deputy Superintendent makes special mention of the valuable assistance rendered to him by Captain Liardet. He also mentions the service rendered by Major Thompson who remained in the Javadi Hills during a most unhealthy season; it is mainly owing to his presence that the survey of the district boundary on those hills was brought to a successful termination.

155. No. 6, *Half-Survey Party.*—Work was carried on under the orders of Captain Baynes up to 9th April 1874 when Major Clay, Assistant Superintendent, Revenue Survey, assumed charge.

156. The Surveyors have been employed in the boundary survey of Zemindari and proprietary estates and in ordinary survey work in the Government villages of the Camsur Taluk.

157. The particulars of work performed are as follows:—

	SQ. MILES.
1. Boundaries Surveyed	322
2. Fields measured	91
3. Do. plotting completed	198
4. Details inserted, 16 inch	237
5. Maps sent to Central Office	155
6. Minor Circuits traversed	No. 1,254

158. The Survey of the Benakond Reservoir has been finished, the maps and records have been lodged in the Central Office, only twenty-four village maps require to be finally examined to complete the survey of the Benakond Taluk. The Surada Reservoir is approaching completion.

159. The cost of topographical survey on the year's outturn has been Rupees 28-0-2 per square mile.

160. Two Grand Trigonometrical Survey stations have been connected with the Revenue Survey during the year, but owing to some error in the traverses received for examination the average error per mile cannot be given.

161. The work has in former years been connected with seven G. T. stations, and the average error per mile is +9-67 and 9-68 feet.

162. The work of marking out the true boundary between Teekali Tarla and Mandasa Estates and Purla Nanded has been commenced and will shortly be completed.

163. The general conduct of the subordinates has not been good. One Boundary Surveyor was recommended to his corps, another was transferred to the Cuddapah District for misconduct (since dismissed) fifty-six men of different grades were either dismissed or discharged for bad conduct, &c.

164. The expenditure has been Rupees 50,601-3-11.

165. No. 2 *Demarcation Party*, attached to No. 6, *Revenue Survey Party.*—No. 2

demarcation half-party attached to No. 6, Revenue Survey, has been employed in the following

boundaries of Zemindari and proprietary estates, and also in ordinary demarcation work in the

Camsur Taluk.

Proceedings of the Madras Government, Revenue Department,
5th May 1876.

167. The appended statement given particulars of work performed during the year:—

	SQ. MILES.
1. Boundaries demarcated	213
2. Fields	13
3. Do. in progress	1
4. Sketches handed over	227

168. The demarcation of the Tempur Taluk and of Mandasa and Tarla Zemindaries has been completed.

169. The expenditure has been on—

	RS.	A.	P.
Establishment	15,20	4	15
Stones	639	12	2

170. The number of marks erected during the year is given below:—

1. Boundary stations	6,247
2. Division do.	799
3. Field do.	102,237

171. The system of supplying demarcation stores by contract has been abandoned in this district, the ryots provide at their own expense all field stones required to demarcate their properties. No advance has therefore been made during the year. Rupees 2,368-15-6 of former advances have been recovered and returned to Government.

172. The total amount of outstanding advances at the close of the year was Rupees 7,176-10-0. Bills for this sum are in the hands of the taluk authorities.

173. One hundred and eight boundary disputes have been settled, inclusive of eighteen under the Boundary Act.

174. Fines, amounting to Rupees 105, were imposed on seventeen offenders. Two cases have been brought to notice under Section 9. In one the offender was not discovered and the mark was restored at the expense of the adjoining taluk. In the other, five men were fined each

Rupees 10 by the Sub-Magistrate of Teekali.

175. The season has been favorable and fairly healthy. The conduct of the subordinates has, with few exceptions, not been altogether satisfactory.

176. *General Remarks.*—This party is composed of a demarcation and a survey party, each half strength, working on the combined system. For various reasons, chiefly from the difficulty experienced in obtaining and, when obtained, in retaining the services of suitable men, the party has not been so successful in former years as could have been wished.

177. Since Captain Clay assumed charge the state of things has improved, and the completion of the Revenue Survey of the Government villages of the district may shortly be expected.

178. *Central Office.*—The total of the Budget grant for 1874-75 amounted to 7,88,000 Rs.

179. In G.O., No. 796 of 26th June, the Local Government directed that the Survey Superintendent to the long time that the survey of the Cuddapah District had been in hand, and ordered that the completion of that district should be hastened as much as possible.

180. The Superintendent accordingly made large additions to Nos. 2 and 3 Survey Parties, and to meet the additional expenditure reduced the strength of other parties as far as was compatible with efficiency.

181. As there was likely to be a deficit, a sum of 18,000 Rupees was, at the request of the Superintendent, placed to the credit of the Survey.

182. A sum of Rupees 12,892-0-3 was also credited to the Survey on account of the demarcation and survey of the Zemindaries of Bodinaikanur and Gunturmanikanur in the Madure District. At the close of the year, the actual expenditure debitable to Government was 7,13,433 Rupees.

183. A statement by taluqs of the outturn and cost of field demarcation and field survey and of topographical and other surveys, as well as of plotting and mapping in office, has been

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

184. *Expenditure on account of the Central Office.*—The expenditure on account of the Central Office during the year has been Rs. 44,511-11-0.

185. The photographic establishment has been principally engaged in the reduction of maps, but various miscellaneous work has also been performed for Government and the Revenue Board. The difficulty hitherto experienced in photolithography has been overcome. Captain Freeth was engaged in making some experiments in this branch of the work at Palmarai (2,214 above the sea level) where he succeeded in getting some fair printed reductions of maps and line engravings. It was then supposed that the climate of Madras was not adapted to the photoincense process, and for a time it was given up. A few months later, some experiments were made in Madras, and by slight modifications in the chemical mixtures, success was obtained. The office can now turn out photoincense prints as clean as photolithography, but with hardly the same despatch.

186. The district maps of Kistna, Tinnevely, Kurnool, and Cuddapah have been under compilation during the year, and are being published in sheets.

187. *Lithographic Establishment.*—During the year, the press has printed in colors 53,820 copies of 1,806 village, estate and waste land block maps, containing an area of 2,313

	Sheets.	Map complete.
Chingleput...	3	Do.
Trichinopoly...	4	Do.
Kistna...	32	More or complete.
Tinnevely...	23	Do.
Kurnool...	51	Do.
Total...	17	

districts named in the margin; 2,550 copies of 17 sheets of the of twenty-nine taluq maps; 150 copies of the key maps of Ootacamund, Coonoor, and Kotagerry Settlements, Nilgiri Hills; 40 copies of the chart of triangles of Coorg; 50 copies of the Andial Town map; 870 copies of twenty-nine 130 copies of the skeleton map of the Madras Presidency, showing the progress of survey work, besides miscellaneous sketches and forms for the use of the District Survey Officers.

188. In addition to the above, 38 copies of an outline map of the Madras Presidency for Government; 2,000 copies of 102 eye-ketches of villages of the Tinnevely Taluq, Tinnevely District; 15 copies of a map showing the boundary fixed between Colar District of Mysore and Punganoor Zemindari, North Arcot District; and 30 copies of map illustrating progress of settlement operations in the Madras Presidency were lithographed for the Revenue Settlement Department; 50 copies of the sketch-map of Michael's Valley, Anamallai Hills, Coimbatore District for Government; 210 copies of map of Mysore, showing Imperial and District roads for Chief Engineer, Mysore; 12 copies of map of disputed tract between Mysore and Collegal Taluq, Coimbatore District, for the Collector of Coimbatore; 1,050 copies of three maps of the Cuddapah District for the Board of Revenue; 20 copies of a sketch-map of the Golconda and Rampa Districts for the Superintendent of Police; 40 copies of the leased forest map, Anamallai Hills, and 40 copies of an additional portion of the combined map of the Nellore and Cuddalore Municipalities.

189. The under-mentioned manuscript copies of maps have also been prepared, viz., skeleton maps of the six taluqs composing the Chingleput District, showing the Post Offices, roads, village site, and boundaries for the Inspecting Postmaster, Madras, tracings of the Paupugni and Cheyaur Rivers from the surveyed taluq maps of the Cuddapah District for the District Engineer, and boundaries, &c., of Magisterial Divisions have been entered in the Ordnance sheet maps for nineteen districts for the use of the High Court.

190. The twenty-nine taluq maps published, fourteen were photolithographed, as also were the sketch-map of Michael's Valley, Anamallai Hills, the map of Punganoor Zemindari, North Arcot District, and the map of the disputed tract between Mysore and Coimbatore.

191. Besides the above-mentioned maps, 1,400 copies of thirty-three village maps of Tinnevely Taluq, Tinnevely District, containing an area of 111 square miles were re-lithographed for the Revenue Settlement Department, and 2,460 copies of eighty-two village maps of Ettimuram Estate, Tinnevely District, comprising an area of 14 square miles, for the Court of Wards, were re-lithographed by a temporary establishment during the first five months of the year and paid for by the Revenue Settlement Department and the Collector of Tinnevely.

	Expenditure.	Cost per copy.
	Rs.	A. P.
Thirty-three Village Maps, Tinnevely Taluq	528	0 6 0
Eighty-two Village Maps, Ettimuram Estate, including cost of paper	896 11 0	0 5 10

192. The salary of the temporary establishment paid for from the Budget of the Public Works Department for completing the arrears of survey work expired with the official year. All arrears had been brought up.

193. The expenditure of the lithographic establishment is given in the margin, and the cost of lithography of village and estate maps is Rupees 6-12-2 per square mile, or 4 Annas 8 Pies per copy.

General Remarks.

194. The Revenue Survey work of the year is briefly given as below:—

	SQ. MILES.	NO.
Boundaries surveyed...	4,602	
Fields measured...	1,840	
Do. plotting completed...	2,053	
Topographical details inserted	16 inches 3,006	5,603
Maps received in Central Office	2,597	7,517
Minor circuit traversed	18	
Boundaries demarcated	2,496	
Fields do.	1,320	
Sketches handed over for survey	1,320	

195. Deducting cost of Central Office, the total cost of the above has been Rupees 6,48,987-14-6.

196. The cost of Central Office has been Rs. 77,052-12-6; after deducting Rs. 44,511-11-0, cost of superintendence debitable to district surveys, the balance is Rupees 32,511-1-6.

197. For this sum the following work has been done:—

	Number of Maps.	Number of Copies.	Cost.
			Rs. A. P.
Village, Estate, and Waste Land Block Maps	1,806	53,820	15,634 8 8
District Sheet Maps	17	2,550	3,341 10 8
Taluq Maps	29	2,905	8,907 0 0
Railway Station and Local Fund Circle Maps	30	345	1,041 10 8
Maps and Sketches for Government, Board of Revenue, Settlement and Forest Departments, Collector, Coimbatore, District Engineer, Mysore, and Presidents, Cuddalore and Mercara Municipalities	116	4,692	610 0 0
Miscellaneous Maps	7	690	216 5 4
Manuscript Sketches and Forms	21	24,769	2,457 6 10
Do. Maps for other Departments			110 10 8
Total	2,026	90,371	32,511 1 6

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

199. Since the establishment of the Survey in 1853, the following work has been com-
pleted:

	SQ. MILES.
Revenue Survey 16-inch scale	41,762
Topographical Surveys 2, and 1-inch scale	15,768
Special Surveys, large	437
Do. reduced	743
Total	58,610

The total cost on survey work in districts has been

Central Office	65,70,658
On Demarcation	4,15,398
Total	70,86,056
Grand Total	81,35,536

200. The total area mapped by the Survey since 1858 is as follows:—

	SQ. MILES.
Revenue Survey 16-inch scale	37,813
Topographical Survey 4, 2, and 1-inch scale	14,328
Special Surveys	1,035
Total area	53,176

201. The average cost of work on complete taluqs for survey and mapping has been since 1858 Rupees 119-8-6.

202. The Superintendent very much regrets that owing to the limited means at his disposal for the purpose of topographically surveying Zemindari and other tracts excluded from ordinary Revenue Survey operations he has not been able to complete maps of taluqs and districts to the extent he could have wished.

203. In December last year, the Madras Government sanctioned his proposal to detach one of the Deputy Superintendents to the Northern Division with a party of Surveyors for the purpose of filling up gaps in the district maps.

204. Unfortunately the necessity for increasing the strength of two survey parties for the completion of the Revenue Survey of the Cuddapah District prevented him from being able to set aside funds for the purpose; a commencement has since been made.

205. Ever since 1858, the work of the Revenue Survey has, year by year, been connected with such Great Trigonometrical points as were favorably situated for proof of Revenue Survey work. The total number of points so connected is 291.

206. The average difference between the work of the Revenue Survey and the Great Trigonometrical work is +7.26 and -8.35 feet per mile.

207. When the gaps caused by the omission from survey of all but Government land shall have been filled up, the Superintendent will be in a position to render available for the revision of the sheets of the Atlas of India geographical materials extending over no less than 66,158 square miles.

CHEPAUK,
22nd December 1875.

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

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

ENCLOSURE No. 2.
Return of Area surveyed and Cost incurred during the Official Year 1874-75.

Parties.	Districts.	Extent measured in Square Miles.	Actual Expenditure during the year.	Estimated Mean Expenditure per square mile.	Expenditure in-cluding the estimated Allowance.	Share of Central Office excluding Regimental Allowance.	Expenditure for the District in-clusive of the share of Central Office.	Regimental Allowance.	Measurers and Coolies.	Instrumental, &c.	Total.	Grand Total.
No. 1	Coimbatore	453	81,069 7 7	1,200	62,269 7 7	2,241 0 10	64,516 8 5	8,201 2 0	1,680 12 8	423 7 5	67,380 12 4	74,292 12 4
" 2	Karnool, Bellary and Cuddapah	1071	77,334 14 11	2,400	79,734 14 11	2,840 9 5	82,635 1 4	4,617 15 11	297 2 3	2,679 5 6	85,411 11 11	89,569 13 8
" 3	Cuddapah	1162	1,04,638 8 10	2,000	1,07,638 8 10	3,830 14 4	1,11,478 7 2	3,454 4 4	81 16 0	5,191 7 6	1,16,763 0 36	1,20,206 8 0
" 4	Madura	288	25,486 5 7	1,900	27,386 5 7	935 4 5	28,321 13 0	5,560 5 0	...	2,936 0 4	33,868 2 4	36,368 2 4
" 5	North Arcot	860	77,951 3 9	3,000	80,951 3 9	2,860 10 8	83,814 14 5	7,251 1 6	128 11 9	1,538 14 9	89,712 0 12	92,786 10 5
" 6	Ganjum	322	45,832 9 0	600	46,432 9 0	1,003 3 0	47,435 12 0	5,569 10 2	...	7 10 9	52,777 4 11	53,163 0 11
" 7	Salem and Trichinopoly.	231	25,341 0 1	...	25,341 0 1	999 14 15	26,340 15 0	545 9 5	...	...	26,885 5 5	26,816 5 5
" 8	Kisna	15	2,733 6 2	...	2,733 6 2	120 5 3	2,853 11 4	81 12 8	...	...	2,934 8 0	2,934 8 0
" 9	Tinnevely and Trichinopoly	...	31,325 15 7	...	31,325 15 7	1,142 9 5	32,467 6 0	674 7 9	...	...	33,141 5 9	33,141 5 9
" 10	Chingabut and Nellore.	...	1,938 0 3	...	1,938 0 3	71 13 8	2,009 13 11	42 2 5	...	...	2,079 2 4	2,079 2 4
" 11	Nilgiris	28	20,802 4 8	...	20,802 4 8	976 2 6	21,778 6 2	572 12 1	...	...	22,350 8 4	22,350 8 4
" 12	Wyond	10	20,565 8 9	...	20,565 8 9	754 11 1	21,320 3 10	443 12 6	...	...	21,763 0 4	21,763 0 4
" 13	Nellambur	...	1,024 8 9	...	1,024 8 9	37 9 5	1,061 8 2	22 0 11	...	...	1,083 9 1	1,083 9 1
" 14	Shervay Hills	103	1,275 14 5	...	1,275 14 5	26 18 7	1,301 13 2	27 7 6	...	...	1,328 10 8	1,328 10 8
" 15	Madhar	27	9 2 1	...	9 2 1	35 0 3	939 2 4	21 8 9	...	...	960 11 1	960 11 1
" 16	Total	4,75	5,04,572 11 5	12,100	5,16,672 11 5	18,591 5 3	5,35,263 3 8	37,057 6 11	2,128 13 9	19,088 12 3	51,305 0 11	5,86,629 4 7

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

CHEPAUK,
22nd December 1875.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

ENCLOSURE No. 3.
Statement of Comparative Distances between Grand Trigonometrical Stations.

Districts.	Stations	Distances.		Difference.	Error per mile.
		By Trigonometrical Survey.	By Revenue Survey.		
Coimbatore.	Shorehallai to Janikal Droog	FEET. 122,486	FEET. 122,505	+ 20	0.86
	Ranganallai to Caroor Pagoda	127,502	127,148	- 354	14.65
	Do. to Tallamallai	213,312	212,850	- 462	11.43
Nilgiris.	Dodabetta to Coonoorbetta, No. 2	31,363	31,427	+ 64	10.77
	Do. to Pakasuramallai	44,246	44,203	- 43	5.13
	Koribetta to Coonoorbetta, No. 2	5,064	5,074	+ 10	10.42
Bellary.	Adonidroog to Kerra Bellagal H. S.	153,965	153,687	- 278	9.53
	Do. to Pulikonda H. S.	129,677	129,483	- 194	7.90
	Goodicubetta to Kanmingut H. S.	68,086	67,982	- 104	8.06
North Arcot.	Kerry Bellagal H. S. to do.	141,627	141,159	- 468	6.27
	Pillimer H. S. to Kalastri, Pagoda	38,734	38,816	+ 82	11.18
	Anandalamallai H. S. to Kurrangota or Anantapooram	131,366	131,226	- 140	5.63
North Arcot.	Tondamanad Pagoda to Pillimer H. S.	59,139	59,091	- 48	4.28
	Do. to Yelpet H. S.	41,865	41,993	+ 128	16.14
	Average error Revenue Survey				+ 6.70 - 8.85

CHEPAUX,
22nd December 1875.

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

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

ENCLOSURE No. 4.
Statement showing the Extent demarcated and the Expenditure incurred during the Official Year 1874-75.

Parties.	NUMBER OF VILLAGES.		Actual work in Square Miles.	Cost.	Share of Central Office.	Total.	Cost of Pillars.	Total, including Cost of Pillars.
	Completed.	In progress.						
No. 1 Demarcation	286	18	1,240	27,476 13 3	RS. A. P. 4,056 12 2	RS. A. P. 31,533 9 5	RS. A. P. 3,996 10 7	RS. A. P. 35,530 4 0
" 2 Do.	115	21	213	15,520 4 10	2,291 7 5	17,811 12 3	680 12 2	18,492 8 5
" 3 Do.	42	37	511	16,972 1 8	2,505 13 0	19,477 14 8	2,694 12 0	22,172 10 8
" 4 Do.	36	3	346	17,352 6 1	2,557 8 5	19,879 14 6	206 15 7	20,086 14 1
" 5 Do.	76	60	371	25,346 9 8	3,742 4 0	29,088 13 8	616 14 8	29,699 12 4
Total	555	139	2,681	1,02,638 3 6	15,153 13 0	1,17,792 0 6	8,190 1 0	1,25,982 1 6

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

CHEPAUX,
22nd December 1875.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

ENCLOSURE No. 5.
Statement of Expenditure of the Revenue Survey, Lithographic Department, for the
Year 1874-75.

Description of Maps, &c., Lithographed.	Number of Copies.	Expenditure.	Remarks.
		RS. A. P.	
Village Estate and Waste Land Block Maps ...	53,820	15,634 8 8	
17 Sheets of 5 District Maps ...	2,550	2,341 10 8	
29 Taluk Maps ...	2,905	8,893 0 0	
Key Maps of the 3 Settlements on the Nilgiri Hills ...	450	80 0 0	
Chart of Triangles, Province of Coorg ...	40	35 0 0	
Nundial Town Map ...	50	34 2 8	
29 Railway Station Maps ...	870	821 0 0	
Local Fund Circle Map of Tellicherry and Malabar District ...	75	220 10 8	
Skeleton Map of the Madras Presidency showing progress of Survey work ...	130	38 2 8	
Outline Map of the Madras Presidency for Government ...	35	119 10 8	
102 Eye-sketches of the Tinnevely Taluk, Tinnevely District ...	3,060	106 10 8	
Map of Boundary fixed between Mysore and Punganoor Zemindaries, North Arcot District. Map illustrating Settlement operations in the Madras Presidency ...	15	20 13 4	
Map of Michael's Valley, Anamallai Hills, Coimbatore District ...	30	19 8 0	
Map of Mysore showing Imperial and District Roads ...	50	22 5 4	
Map of disputed Tract between Mysore and Coimbatore Taluk, Coimbatore District ...	210	31 10 8	
3 Maps of the Cuddapah District for the District Manual ...	12	15 1 4	
Sketch Map of Golconda and Rampa Divisions, Godavery District ...	1,050	75 0 0	
Map of Leased Forest, Anamallai Hills, Coimbatore District ...	20	29 0 0	
Combined Map of Nellore Government Reserve Teak Plantations (additional portion). 2 Divisions of the Cuddalore Municipality ...	40	24 13 4	
Mercara Town and Municipal limits, second edition ...	100	29 8 0	
Miscellaneous sketches and forms ...	50	281 4 0	
Manuscript Maps.	24,769	69 13 4	
Skeleton Map of Taluqs composing the Chingleput District ...		2,457 0 10	
Tracings of the Papugni and Cheyaur Rivers, Cuddapah District ...		4 0 0	
Boundaries, &c., of Magisterial Divisions entered in 19 Ordnance Sheet Maps of India.		10 10 8	
		96 0 0	
Total ...	90,371	32,511 1 6	

CHEPAUK,
22nd December 1875.

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

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

ENCLOSURE No. 6.—Statement showing extent of Boundary, Demarcation, and Survey.

ENCLOSURE No. 7.—Statement showing Field Demarcation and Survey.

ENCLOSURE No. 8.—Statement showing extent of Plotting.

ENCLOSURE No. 9.—Statement showing extent of Mapping.

ENCLOSURE No. 10.—Statement showing extent of Topographical Survey.

With the foregoing letter, the Superintendent, Revenue Survey, forwards his report on the operations of the Survey Department for the official year 1874-75 for submission to Government. The work performed by each party will be noticed in order.

2. No. 1, Survey Party.—The operations of this party extended over a very wide area embracing portions of the Coimbatore, Salem, Trichinopoly, Malabar, and Nilgiri Districts. In the first mentioned district the taluqs of Dharapuram, Caroor, Pollachi, and Udamalapettah were reported incomplete last year. In the year under report the survey and mapping of Dharapuram have been completed and Caroor is nearly finished. The demarcation and survey of Pollachi on the combined system has also been completed, and in Udamalapettah only 103 square miles remain. Collegal is still untouched. The total extent measured was 458 square miles.

3. In Salem, a portion of the establishment was engaged in surveying district boundaries and in the Topographical survey of Zemindaries and jungly tracts unsuited for Revenue survey, with a view to the completion of the taluk maps. Topographical work of a similar nature was carried on in Trichinopoly as well as the survey of the Pachamalai Hills and Malayalappatti Forest.

A portion of the party was also engaged in road survey in Malabar, 79 miles being executed, and in the survey and demarcation of the true boundaries between Coimbatore and Malabar, and between Mysore and Salem. Detachments from the party were engaged on the Nilgiris, Shevaroy, and in the Wynaad, in the survey and demarcation of waste land blocks, estates, and paddy flats. A portion of the district boundary between the Nilgiris and Wynaad was marked and surveyed, as was also the eastern boundary of Mr. Ouchterlony's estate. The total area surveyed by the party excluding the Nilgiris, Wynaad, and the Shevaroy Hills, amounted to 819 square miles boundaries surveyed, and 179 square miles fields surveyed, at a cost of Rupees 95,482.

4. No. 3, Demarcation Party, which forms a part of No. 1, Revenue Survey Party, was engaged principally on field work in the Pollachi and Udamalapettah Taluqs of the Coimbatore District, and in the demarcation of district boundaries in Coimbatore and Salem. The outturn of work was 511 square miles of boundaries demarcated at a cost of Rupees 16,972, the number of marks erected being 102,951.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

5. The following statement exhibits the progress made during the year in each operation for purely revenue purposes with the cost:—

No. 1, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
Coimbatore ...	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.
Salem ...	319	4,633	406	11,879	1263	15,603	179	9,294	641	2,416	913	10,573	913	Not stated.
Total...	319	4,633	406	11,879	1263	15,603	179	9,294	641	2,416	913	10,573	913	...

6. No. 2, Survey Party.—This party was occupied with ordinary survey work in the Adoni Taluq, Bellary; Bapatla Taluq, Kistna; and Khadri Taluq, Cuddapah; besides testing, detailing, and hill-sketching in the two former, and in the Cumbum and Markapur Taluqs of Kurnool. The survey of the two last mentioned taluqs has been completed, and that of the Adoni Taluq would have been finished, but for the reduction of the staff owing to want of funds. The area surveyed was 1,086 square miles at a cost of Rupees 85,465.

7. No. 5, Demarcation Party, forming a portion of No. 2, Revenue Survey, was employed in demarcating the true boundaries of the Vinucondah, Palnad, and Narasarpur Taluqs of the Kistna District, in ordinary field demarcation in the Adoni Taluq of Bellary, and in the settlement of the disputed boundary of the Sundur Jaghire in the same district. A total of 110,036 marks were erected, and 174 square miles of boundaries demarcated at a cost of Rupees 25,346.

8. The following statement exhibits the progress made for purely revenue purposes:—

No. 2, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
Bellary...	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.
Kistna...	173	5,173	609	7,374	371	21,963	329	9,185	156	3,118	90	437	90	899
Cuddapah...	...	...	15	219	...	...	6	164	13	254	15	75	15	146
Kurnool...	...	...	520	2,506	...	...	27	764	...	...	...	...	...	...
Total...	173	5,173	1,044	11,099	371	21,963	362	10,113	279	5,573	578	2,803	578	6,891

* Includes 120 square miles merely verified.

† " 47 " "

‡ " 56 " "

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

9. No. 3, Survey Party.—This party was engaged in the taluqs of the Cuddapah District marginally noted.

1. Sidhout.
2. Budwail.
3. Pailampett.
4. Royachoti.
5. Pulivendla.
6. Voilpad.

The first two have been completed in every respect; the third is nearly finish-

ed; in the fourth the field areas are ready for settlement, and in the fifth the field and boundary surveys have been completed. Progress in Voilpad is retarded by the irregular shape of the fields, and the interspersion of Tam with Ayen lands. A considerable amount of work has also been accomplished in the survey of main and minor circuits and hill surveys. The total area is given as 1,162 square miles, and the cost at Rupees 1,07,344:

10. The following statement exhibits details of the area and cost under the several branches for purely revenue purposes:—

No. 3, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
Cuddapah ...	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.	sq. m.	rs.
	...	...	777	28,816	...	...	453	24,909	478	20,242	1,137	4,924	1,137	19,230

11. No. 4, Survey Party.—This party was at work in the Tinnevely, Madura, and Trichinopoly Districts. In the first mentioned district the completion of the maps of Government villages in the Sankaranayanarcovil, Streevilputtur and Sattur Taluqs, and the demarcation and survey of several Zemindaries occupied attention. In Madura, a portion of the party was engaged in the survey of the Periacolum Taluq and the Bodinaickanur and Guntamanaickanur Zemindaries, and in Trichinopoly in completing the survey of Zemindaries.

The survey of the boundary between Travancore and Tinnevely was also in progress. To complete the Tinnevely District, the survey of the range of hills adjoining Travancore alone remains. Field work in the Periacolum Taluq, Madura District, was almost finished. The outturn was 288 square miles at a cost of Rupees 62,897, according to the figures in the body of the report.

12. No. 4, Demarcation Party, forming a part of No. 4, Revenue Survey, was engaged in the Government villages of Periacolum Taluq, and in the Bodinaickanur and Guntamanaickanur Zemindaries, and in the demarcation of boundaries of Zemindaries in the three taluqs of Tinnevely already mentioned. The outturn was 346 square miles at a cost of Rupees 17,322, the number of marks erected being 150,647.

* 335 Square miles also verified.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

13. The amount and cost of Revenue survey work proper is shown below:—
No. 4, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
Madura	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.
Tinnevely	111	20	28	3,100	86	10,187	133	8,176	23	2,129	25	1,618	...	...
Total	111	20	28	3,100	86	10,187	133	8,176	23	2,129	25	1,618	...	...

14. No. 5, Survey Party.—This party was engaged in the marginally-noted taluqs of the North Arcot District. The first mentioned has been completed; in the second and third taluqs field measure-

ment and the Boundary and Topographical surveys were approaching completion. Work was progressing in Polur on the combined system, and in Guriattum the survey of villages within a radius of one mile from the Railway stations of Trivellum and Vellore was undertaken. A detachment was also engaged in the Topographical survey of the Kalastri Zemindari.

15. In the Nellore District the Topographical survey of Velikonda Hill was completed, and the survey of the boundary line between Salem and the taluqs of Vellore and Polur in North Arcot was finished; the health of the subordinates employed having suffered severely owing to the unhealthiness of the locality. In the Karveti, Puggar Zemindari the survey of the Railway stations was completed, as also the maps of eight stations in North Arcot and Chingleput, and the survey of 97 miles of Railroad.

The outturn of work was 860 square miles of boundaries surveyed, and 467 square miles of fields measured, at a cost of Rupees 86,901.

16. Work was carried on under the combined system by No. 1, Demarcation Party, attached to No. 5, Survey Party, in Wallajah, Vellore, Polur and Wandiwash taluqs; the first mentioned having been completed at a cost of Rupees 52 per square mile. The actual work in square miles was 1,240, at a cost of Rupees 27,476, the number of marks erected being 444,070.

17. The amount and cost of Revenue Survey work proper is shown below:—
No. 5, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
North Arcot	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.
	797	13,807	516	15,352	435	16,858	463	23,472	496	2,484	418	11,722	373	9,434

* Exclusive of the work performed in Zemindaries.

Proceedings of the Madras Government, Revenue Department,
9th May 1876.

18. No. 6, Survey Party.—The Surveyors have been employed in the Boundary survey of Zemindaries in Ganjam and in ordinary survey work in the Government villages of the Samsur Taluq. The demarcation of the true boundary between the Teckali Tarla and Mandasa Estates and Purla Kimediy Zemindari was also undertaken. The outturn was 322 square miles at a cost of Rs. 50,601. The Demarcation Party No. 2, attached to No. 6, Survey, was employed in the same localities, the outturn of work being 213 square miles at a cost of Rupees 15,520, and the number of marks erected amounting to 10,283.

19. The Revenue survey of the Government villages in Ganjam is stated to be approaching completion. The work of the year is shown below:—
No. 6, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
Ganjam	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.
	...	...	168	11,101	...	...	...	...	...	...	205	1,995	...	...

This is the only party with respect to which the conduct of the subordinates is unfavorably mentioned.

20. The total work accomplished during the year according to the figures given in the body of the report was as shown marginally, but these figures do not exactly tally with those entered in Statements 1 and 3 of the Appendix.

Taking the figures given in Enclosures 1 and 3 for comparison with last year's results, the area measured was 4,575 square miles at a cost of Rupees 5,35,334, or an average of Rupees 117 per square mile against 3,285 square miles at an average cost of Rupees 127. The area demarcated was 2,681 square miles and the expenditure Rupees 1,17,792, an average of Rupees 44 per square mile against 2,530 square miles at an average cost of Rupees 46 in the preceding year.

21. The cost of the Lithographic Department was Rupees 32,511, for which sum 90,371 copies of 2,026 maps were turned out. The Photozincographic process has been successfully employed, the difficulties at first experienced having been overcome. The cost of lithography on village and estate maps is given as Rupees 6-12-0 per square mile, or 4 Annas 8 Pies per copy, against Rupees 4-2-6 per square mile, and 3 Annas 1 Pie per copy last year. The cause of the increase of cost is not explained.

22. The total expenditure of the department debitable to Government amounted to Rupees 7,13,433, against a Budget grant of 7 lakhs.

*Proceedings of the Madras Government, Revenue Department,
9th May 1876.*

23. Since the establishment of the Survey in 1853, the department has accomplished the survey of 58,610 square miles of ~~lands~~ ^{lands} at a cost of Rupees 70,86,056 on survey, and Rupees 10,49,480 on demarcation. The area mapped amounts to 53,170 square miles, and the average cost of survey and mapping for complete taluqs is stated to be Rupees 119-8-3.

24. When the vast amount of additional miscellaneous work, which cannot be reduced to square miles, is taken into account and the accuracy of the operations as proved by the very slight difference from the results of the Trigonometrical survey is considered, it must be admitted that the progress made both in the year under review and in the past has been eminently satisfactory, and that the results achieved reflect the greatest credit on the Superintendent and his department.

25. In conclusion the Board observe that in reviewing the present report some difficulty has been experienced in ascertaining exactly what has been accomplished and the cost. The figures given in the body of the report do not tally with those entered in Statements 1 and 3, which have been taken as purporting to show the whole work of the department as regards Survey and Demarcation. Further, the returns are defective in that the existing state of things in each district cannot be gathered from them. There is no apparent reason why the statements should not be framed so as to show the taluqs completed in every respect, those hitherto untouched, and the stage at which those in hand have arrived, with details of the work done and cost under each of the heads of Boundary Demarcation and Survey, Field Demarcation and Survey, Plotting, Mapping, and Topographical Survey. The amount of work accomplished for purely revenue purposes should also be distinguished from work undertaken in connection with the Settlement Department, but Colonel Priestley states that great difficulty has been experienced in the compilation of the returns which are still incomplete. It is obvious that a great amount of labor has been entailed by the preparation of the five new forms which accompany the present report, and the form which is used in the Settlement Department for Field Demarcation and Mapping purposes only is not adapted to all the operations of the Survey Department, as is plain from Columns 5 and 6, the former being intended to show the area within the external boundaries of villages, the latter the area laid out into fields.

26. One form should suffice for all operations, as it is quite unnecessary for the purposes of the annual review that the several items of which the total cost is composed should be exhibited. The cost of each operation can be shown in the lump, but it should include all items fairly debitable, as for instance, a proportionate share of the cost of the Central Office; from the figures adopted in the body of the report it would appear that this course is not now followed in making the compilation. Columns to show the average cost per square mile are unnecessary as they serve to increase the length of the statements considerably, and, as the several operations are not carried on simultaneously in any given area, no conclusions can be drawn as to the cost of the several branches combined till the whole taluq has

*Proceedings of the Madras Government, Revenue Department,
9th May 1876.*

been completed. The average cost of each operation per square mile can easily be deduced, if required, from the total areas and expenditure given.

27. The Board request, therefore, that the Superintendent, Revenue Survey, will remodel the returns so as to give in a compact shape such of the information indicated above, as is procurable, without entailing undue labor, so that it may be possible to gather from the returns themselves exactly what has been accomplished. The Board believe that the monthly returns in use in the Survey Office will suffice for the compilation of annual returns of the kind required.

(True Copies and Extract.)

(Signed) C. A. GALTON,
Acting Secretary.

No. 71.

ORDER THEREON, 9th May 1876, No. 591.

Miscellaneous.

RECORDED.

2. This report like that for the previous year shows very satisfactory progress.

(True Extract.)

(Signed) D. F. CARMICHAEL,
Secretary to Government.

To the Board of Revenue.
„ the Superintendent of Revenue Survey.

Exd. W. H. French.

6 4 miles thick and 10, and the last 10
standing in high R.D. usual table

15

No. 922.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 5th April 1876.

Read the following letter from Colonel F. J. B. PRIESTLEY, Superintendent of Revenue Survey, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Chepauk, 22nd December 1875, No. 3,789-171:—

I HAVE the honor to submit the annual report on the Revenue and Topographical Survey and Demarcation operations during the official year 1874-75. Notwithstanding that the submission of this report has been delayed in order to furnish the information called for in Proceedings, Board of Revenue, it is regretted that the returns are still incomplete.

* Dated 18th January 1876, No. 97.

ENCLOSURE No. 1

Report on the Revenue Survey and Demarcation of the Madras Presidency for 1874-75.

No. 1 Survey Party.—Under the orders of Captain J. G. Hoete, Deputy Superintendent, Revenue Survey. The field establishment of Coimbatore, Salem, Trichinopoly, Malabar and Nilgiris. No. 2 Party has been employed during 1874-75 in eighteen taluqs of five different districts. In the Coimbatore District, in surveying district boundaries and in ordinary Revenue Survey work.

2. In the Salem District, in surveying district boundaries, topographical survey of Zemindaries and of tracts of Government land formerly excluded from Revenue Survey, and in revision of the topographical map of Government villages.

3. In the Trichinopoly District, in revision of the topographical map of Government villages and in surveying the Pachamalai Hills and Malayalapatti Forest, hill-sketching and preparing railway station maps.

4. The progress of work during the year is shown below:—

	SQ. MILES.
1. Boundaries surveyed	819
2. Fields measured	179
3. Do. plotting completed	599
4. Topographical details inserted	<div> <div>16 inch 913</div> <div>4 " 223</div> <div>2 " 393</div> <div>1 " 393</div> </div> 1,532
5. Maps sent to Central Office	1,532
6. Minor circuits traversed	No. 1,823

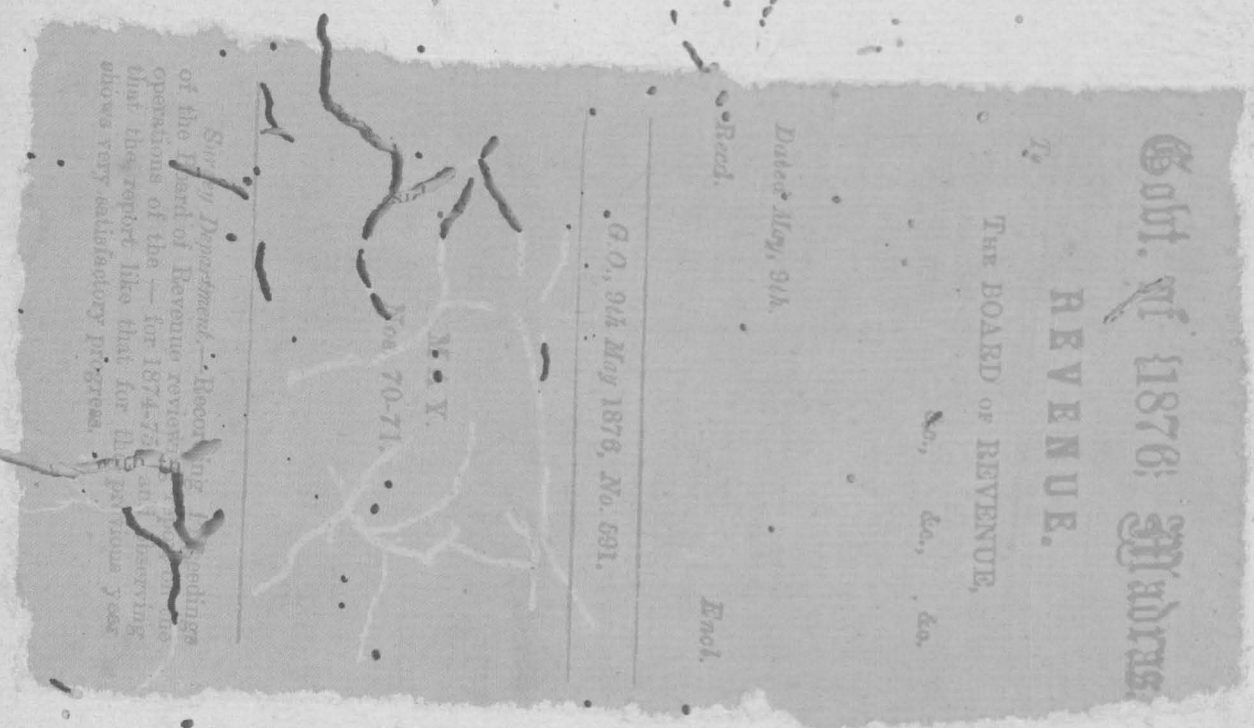
5. In addition to the above, about 1,532 square miles of taluq mapping executed some years ago have been revised in the field and brought up to date.

6. A portion of the Belirungam Hills (area 12.25 square miles) near the Mysore boundary has been surveyed at the request of the Collector of Coimbatore, and the survey of the leased forest on the Annamalais, area 27 square miles, has been completed. The topographical survey of the bed of the Cauvery River on the scale of 4 inches = to 1 mile had been undertaken and is nearly completed. The five forest blocks at Malayalapatti near the foot of the Pachamalai Hills have been completely demarcated and surveyed as directed in Proceedings, Board of Revenue No. 1,872, of 18th September 1873.

7. Six railway station maps are in progress.

8. The survey and mapping of the Dharapuram Taluq have been completed, and these processes in Caroor are fast approaching completion.

9. In the Malabar District, 79.48 miles of road survey have been executed in accordance with the wishes of the Board of Revenue, (No. 2,101, of 5th August 1874).



10. The true boundaries of districts, when such boundaries ran over hills or through tracts not brought under the operations of the Revenue Survey, had in many instances been left unmarked and unsurveyed. Two lines between Coimbatore and Malabar Districts, about 37.42 miles in length, have been surveyed. The whole of the boundary between Mysore and the Salem District, 98.46 miles in length has been marked and surveyed, 6.39 miles also of the South Arcot boundary where it adjoins Salem on the Coleroy Hills have been surveyed.

11. The cost of topographical survey in Zemindari lands has been Rupees 42 per square mile for completed work.

12. The work has during the year been connected with five Great Trigonometrical points, and the average error per mile is 7.53 feet.

13. The Revenue Survey work in the five districts mentioned in paragraph 1 has been connected with no less than eighty-two G. T. stations. The average error per mile is + 7.99 and - 9.22 feet.

14. No fines have been incurred under Act XXVIII. of 1860.

15. The season has been favorable at head-quarters and in the more open parts of the districts, but many of the Boundary Surveyors and all the Topographical Surveyors employed in the jungly and hilly tracts have suffered from fever. Part of the country may without exaggeration be described as the most feverish and most difficult in Southern India.

16. The conduct of the subordinates in general has been good.

17. The party has been inspected by the Superintendent more than once.

18. The expenditure has been Rupee 95,481-12-8 as shown below:—

	RS.	A.	P.
Coimbatore	69,186	10	6
Salem	18,651	7	10
Trichinopoly	6,689	8	3
Malabar	954	2	1

19. *Nilgiri Hill Survey Detachment from No. 1 Party.*—The Nilgiri Demarcation and Survey detachment was principally employed in Todanaad from the end of Wynaad working season to the commencement of the south-west monsoon and in Paraganaad on the eastern side of the Hills from June to September 1874.

20. The amount of work performed is given below:—

	Demar- cated.	Surveyed.	Plotted.	Detailed.
Out Lands	1,000	469	1,466	895
Government Reserve	100	96	81	51
Minor Circuits	108	108	54	...
Waste Land Blocks	18	16	16	12
Quit-rent Properties	17	19	22	8
Cultivation Boundaries	6	4	5	7
Roads	2	2	4	...

21. As ordered in G.O. No. 1,159, of 4th October 1873, the eastern boundary of Mr. Ouchterlony's estate was marked and surveyed for a distance of 11.50 miles. The connection of the boundary line with Nilgiri Peak by triangulation remained to complete the work.

22. The area of estates surveyed during the year is 27.81 square miles. The extent detailed is 15.15 square miles.

23. Fifty-three maps of estates &c., have been completed and lodged in the Central Office.

24. Nine-thousand eight-hundred and ninety-seven marks have been erected.

25. Under the head of Advances on account of Demarcation, Rupees 37-2-4 remain to be collected.

26. Three lines have been proved by trigonometrical survey and the average error per mile is 7.66 feet. Since the commencement of the survey on the Hills, the work has been connected with five G. T. points and also with six points fixed by triangulation based on G. T. work.

27. There has been no sickness on the Hills, but the work was very much retarded by continued rain.

28. The conduct of the subordinates has been fair.

29. The expenditure has been Rupees 26,602-4-8.

30. *Wynaad Survey Detachment from No. 1 Party.*—During the short working season in Wynaad the main body of the detachment was employed in the demarcation and survey of paddy flats south of the Sultan's Battery main road, and east of the road from that place to Cheramkode, also in marking and surveying Cheramkode Estate boundaries and in inserting details in estates near Gudalur and Nellialum.

31. Surveyors were also detached for the survey of the Forest near Manantoddy and to complete the survey of the Vellari Malai Estate.

32. The progress made is as follows:—

	Demar- cated.	Surveyed.	Plotted.	Detailed.
Paddy Flats	125	26	66	...
Minor Circuits	57	55	66	41
Estate Boundaries	25	30	...	...
Town Lots	12	12	...	...
Waste Land Blocks	7	6	...	10
Cultivation	7	17	...	...
Roads	4	4	2	...
Forest Department Blocks.	...	...	...	...

33. (The area of estates surveyed is 9.67 square miles and the extent detailed is 18.25 square miles). A portion of the district boundary between the Nilgiris and Wynaad, about twenty miles in length, has been marked out and surveyed.

34. In the Nellambur Valley, twelve minor circuits have been demarcated and surveyed by men of the detachment. Details have been inserted in twenty-four properties.

1. Estate Maps.....No. 22
2. Waste Land Blocks....." 6
3. Forest Department Blocks....." 3

35. Maps specified in the margin have been completed and sent to the Central Office.

36. During the year the amount advanced was Rupees 65-12-0 against 388-4-5 recovered. At the close of 1874 the amount of advances outstanding was Rupees 3,526-8-5; of this sum bills for Rupees 1,088-9-10 have been sent.

37. The men have all suffered more or less from fever as usual. Their conduct has been fair.

38. The expenditure has been Rupees 21,590-1-6 as shown below:—

	RS.	A.	P.
Wynaad	20,565	8	9
Nellambur	1,024	8	9

39. *Shevaroy Hill Survey Detachment from No. 1 Party.*—On the Shevaroy Hills eleven waste land blocks were surveyed, six Malabar villages were being demarcated and surveyed, in fields, at the request of the Collector of Salem. The field work was approaching completion.

40. The amount of work performed is given below:—

	SQ. MILES.
1. Boundaries surveyed	102.78
2. Fields measured	1.43

41. The work in the plains had been connected with the Shevaroy Hills by the Ghauts, and squares were being prepared for hill-sketching.

42. The expenditure has been Rupees 1,275-14-5.

43. No. 3, Demarcation Party attached to No. 1, Revenue Survey.—No. 1, Demarcation Party, is actually as far as work is concerned a part of No. 1, Revenue Survey Party. Though pay for the men continues to be drawn in a separate pay bill, yet every man is liable to be called on to work as a Surveyor; demarcation and survey go on side by side on the combined system, under the direction of the Deputy Superintendent, No. 1 Party.

44. Mr. E. Baber was in executive charge of the field work in the Pollachi and Udumalpettah until a few weeks before the end of the year, when he gave over charge to Captain Freeth and proceeded to commence operations in Collegal.

45. The Demarcators have been employed in the Coimbatore District in ordinary work and also in Udumalpettah Taluq in demarcating part of the district boundary hitherto left unmarked.

46. In the Salem District, in the demarcation of part of the district boundary and in the demarcation of village and field boundaries on the Shevaroyas at the request of the Collector and by order of the Board of Revenue.

47. In the Trichinopoly District in the redemarcation of two villages in the Kulittalai Taluq as directed by the Board of Revenue.

48. A statement of work done during the year is shown below:—

1. Boundaries demarcated	...	...	...	...	SQ. MILES.
2. Fields do	...	...	...	...	511
3. Do. in progress	...	...	...	...	266
4. Sketches handed over	...	...	...	...	59
	...	...	...	...	358

49. The combined demarcation and survey of the Pollachi Taluq has been completed. To complete Udumalpettah Taluq there remain thirty-three villages of 163 square miles in extent.

50. A portion of the true western boundary of the Coimbatore District, about 47.32 miles in length, has been settled and marked, as well as another of about 6.39 miles between Salem and South Arcot Districts, commencing northwards from the surveyed boundary of the Ahtur Taluq.

51. Good and substantial marks of durable stone have been used throughout, and the demarcation is everywhere permanent.

52. The expenditure has been on—

Establishment	...	...	...	...	RS.	A.	P.
Stones	...	...	...	...	16,972	1	8
	...	...	...	...	2,694	12	0

the latter sum includes Rupees 469-2-0 cost of carriage and labor.

53. The number of marks made during the year is as follows:—

1. Boundary station	...	...	...	...	2,987
2. Division do.	...	...	...	...	4,171
3. Field do.	...	...	...	...	95,793

54. For Collegal Taluq, it has been found necessary to pay for stones at slightly higher rates than has been customary in the southern taluqs.

55. During the year, 197 disputes have been settled.

56. In the Coimbatore District, a balance of Rupees 60-11-5, advanced for demarcation purposes, only remains to be recovered.

57. No fines have been inflicted by Survey Officers under Section 4 of the Boundary Act. Ten cases of removal of stones have been disposed of by the Civil authorities. In six out of ten cases, under Section 9, the offenders have been punished by fines varying from 5 to 20 Rupees. In three cases the offenders were acquitted for want of sufficient evidence. The result of the remaining case has not yet been communicated to this department.

58. General Remarks.—The dispersion of the men of this Revenue Survey Party over such a large area, described by the Deputy Superintendent as extending over three degrees of latitude and three of longitude appears to call for some explanation. There being no party specially appointed for topographical survey, and for the execution of the various surveys called for by Government, the Superintendent from time to time called on the No. 1 Party to supply men for

such work. The supervision of such men naturally devolved on the Deputy Superintendent of the party. When No. 4, Revenue Survey, was withdrawn from Wynad (in 1864), regular survey work was for a time suspended.

59. On the survey being ordered to be recommenced, a detachment of No. 1 Party undertook that duty on the survey and demarcation of the hill settlements being ordered in March 1865, No. 1 Party supplied the men, the survey has since been extended to the whole of the Nilgiri District, and is still in progress.

G.O., No. 672 of 27th March 1865.

60. In the Malabar District, the survey and demarcation of teak forests and reserves were ordered by Government, No. 1 Party supplied the Surveyors; at present the roads of the district are being surveyed by men detached from the same party.

61. On the completion of the Revenue Survey of such villages as had been selected for their operations by the Settlement Department in the Salem District, large tracts of Government land, for the most part covered with jungle or otherwise unsuited for Revenue Survey, were left unsurveyed, as also were large ranges of hills and the whole of the Zemindari lands of the district. In order to be able to supply geographical materials to complete taluq maps it became necessary to survey all these excluded tracts. As No. 1, Revenue Survey Party, had originally been employed in the Salem District, it was natural that its men should be called on to complete their work. As mentioned in last year's report, advantage was taken of the presence of the Surveyors in the Salem District to revise the taluq mapping that had been executed in former years, so as to make the whole of the topographical drawing uniform in style and bring the work up to date.

62. In the Trichinopoly District, the same state of things existed as in Salem. Great progress had at the close of the year been made in preparing fresh topographical maps of the different taluqs.

63. In addition to ordinary survey work, the Deputy Superintendent of No. 1 Party has been charged with the supervision of a full demarcation party.

64. The party having been worked on the combined system, the task of supervision has been more easy than it otherwise would have been. Of Captain Cloete has devolved the important and laborious duty, so long and ably performed by Colonel Hessey, of supervising the extended operations of No. 1 Party. The Superintendent desires to express his sense of the energy and administrative ability displayed by the present Deputy Superintendent.

65. No. 2, Survey Party.—The party has been employed in the following manner in the districts named below under the orders of Mr. H. O. C. Carlozo, Deputy Superintendent, Revenue Survey.

(1.) Kurnool District.—Testing, detailing and hill-sketching in the Adoni and Markapur Taluqs.

(2.) Kistna District.—Field measurement, testing and detailing in the Denatia Taluq, hill sketching and demarcating and surveying taluq boundaries left undemarcated by the Settlement Department in the Vinucondah, Palnad, Sattinapalli and Narasarowpet Taluqs.

(3.) Bellary District.—Boundary and field survey, testing, detailing and hill-sketching in the Adoni Taluq.

(4.) Chuddalur District.—Sub-division of large khandams and ordinary survey work in the Khad

66. The progress made during the year 1874-75 is shown below:—

	...	...	...	...	SQ. MILES.
1. Boundaries surveyed	...	...	...	...	1,085
2. Fields measured	...	...	...	...	362
3. Do. plotting completed	...	...	...	...	205
4. Details inserted	{ 16 inch 497	{ 4 " 181	{ 2 " 108	...	786
					959
5. Maps sent to Central Office	...	...	...	...	No. 2,585.
6. Minor Circuits traversed	...	...	...	...	

67. The survey of the Cumbum and Markapur Taluqs has been completed, and that of Adoni would have been completed also, had it not been necessary, owing to want of funds, to discharge or grant leave without pay to many trained hands at the most favorable season for work.

68. The outturn during the year contrasts favorably with that of the previous year under heads of boundaries and fields surveyed.

69. The Revenue Survey work has been connected with five Grand Trigonometrical stations during the year. The average error per mile is 7.97 feet.

70. Since the commencement of work by No. 2, Revenue Survey, it has joined its work to no less than thirty-nine G. T. points in the districts of Godavery, Kurnool and Bellary. The average error per mile is + 6.12 and - 7.23 feet.

71. No fines have been inflicted by Revenue Survey Officers under the Boundary Act.

72. The season has been on the whole unfavorable. The rains have been exceptionally heavy and caused very serious delay to work in Adoni. In the Kadri Taluq of the Cuddapah District the men have suffered from fever.

73. The conduct of the subordinates has, with a few exceptions, been satisfactory.

74. The party has been inspected by the Superintendent.

75. The expenditure has been Rupees 85,465-10-7, as shown below:—

	RS.	A.	P.
Kurnool	24,534	6	8
Kistna	3,798	6	2
Bellary	47,982	11	0
Cuddapah	9,170	2	9

76. No. 5, Demarcation, part of No. 2, Revenue Survey Party.—No. 5, Demarcation Party, a part of No. 2, Revenue Survey, has been employed during the year in demarcating the true boundaries of the taluqs named in the margin, in the Kistna District, in ordinary demarcation work in the Adoni Taluq under the combined system, also in the settlement of disputes on the boundary of the Sundoor Zemindari in accordance with G.O. of the 10th January 1874, No. 40.

77. The progress made is as follows:—

	SQ. MILES.
1. Boundaries demarcated	174
2. Fields do.	371
3. Do. in progress	43
4. Sketches handed over	232

The expenditure has been on—

	RS.	A.	P.
Establishment	25,346	9	8
Stones	610	14	8

78. A sum of Rupees 2,491-1-8 has been expended on account of the settlement of disputes on the boundary of the Sundoor Zemindari.

During the year the following marks have been erected:—

Boundary stations	290
Division do.	4,596
Field do.	105,150

ers, five
4-75.

80. Out of thirty-one disputes reported, twenty-five were set
were referred to the Revenue authorities, and one was left undispos
81. No advances have been made for stones.
82. The season has been unfavorable. The conduct of the subordinates generally has been satisfactory.

83. The party has been inspected by the Superintendent.

84. General Remarks.—There is no regular demarcation establishment attached to No. 2, Revenue Survey. The Superintendent was anxious that on the completion of the survey of the Kurnool District, the men should be trained in demarcation, and that the Bellary District should be the next taken up by his department.

85. The Adoni Taluq was in consequence commenced. The party was worked on the combined system.

86. The Government in G.O., No. 796, of 26th June 1874, desired that the completion of the survey of the Cuddapah District should be expedited, and that the party then employed in Adoni should be transferred to that district. The demarcation of Kadri Taluq had been sometime previously been completed, by the Settlement Department. The sudden stop put to the progress of work in Adoni has in some degree injuriously affected the outturn for the year.

87. No. 3, Survey Party.—Survey operations have been carried on in the taluqs named in the margin by No. 3 Party under the orders of Mr. F. C. Puckle, Deputy Superintendent, Revenue Survey. During two months that Mr. Puckle was absent on privilege leave, Lieutenant Colonel Hessay held charge of the party.

1. Sidhout, Badwal.
2. Pullampet.
3. Royachoty.
4. Pulivendla.
5. Voilpad.

88. The first two taluqs have been completed in all respects. Pullampet is also complete with the exception of some hill ranges of about 200 square miles now under survey. In Royachoty, the field areas are ready for settlement. The field survey and boundary survey of Pulivendla have been completed.

89. In the Voilpad Taluq which is under survey, there are several cultivated valleys containing very small and irregularly shaped fields. Inam and Ayen lands being largely interspersed, clubbing for survey purposes is rarely practicable. The Amin's work is tedious and is often left incomplete till valuable crops have been removed. The Deputy Superintendent reports that almost two-fifths of the demarcated lands cannot be measured by chain only, but must be marked out with stations and surveyed as minor circuits.

90. The outturn has been as follows:—

	SQ. MILES.
1. Boundaries surveyed	1,162
2. Fields measured	452
3. Do. plotting completed	478
4. Details inserted	1,137
5. Maps sent to Central Office	1,275
6. Do. of Taluq do.	1,365
7. Minor Circuits traversed	No. 3,437

91. Besides, the above eleven main circuits, consisting of 3,497 stations, have been surveyed as well as the boundaries and khandams of fifty-five villages containing 330 square miles not returnable as complete until their minor circuits are also surveyed. About 45 square miles of hill surveys have been done in Pulivendla to expedite the completion of the sheets of the district map.

92. In fourteen villages, minor circuits and dividing lines, aggregating 9,320 stations and 26,950 offsets, have been laid out and separate sketches for these circuits have been prepared. It was found impracticable to enter them on the old demarcation sketches which were already much defaced and in very bad condition when received from the Settlement Department.

Reddipalli and Kodur;

93. Two railway station maps have been completed.

94. Twenty-nine khandams, containing on an average 2,440 taks each, have on account of the minute holdings been plotted on the 32-inch scale, and then reduced, and entered in their proper places on the village maps of 16 inches to the mile.

95. The Revenue Survey work in the district has been connected with eight stations of the Grand Trigonometrical Survey in the Pulivendla Taluq, but the average error per mile cannot be given, as traverses have not yet been received for examination.

96. Since the commencement of the survey the work has been connected with G. T. by points by No. 3 Party as given below:—

In Kistna District	24
„ Cuddapah do.	12

The average error per mile is $\times 2.81$ and -5.56 .

97. Under Act. XXVIII. of 1860, forty-three offenders have been fined, in all Rs. 159-0-1.
 98. The season has been unhealthy. The total loss of time by casual sickness in the field was 4,334 and in the office 2,683 days.

99. The conduct of the subordinates has been highly satisfactory.
 100. The party has been inspected by the Superintendent.

101. The expenditure has been Rupees 1,07,344.

102. *General Remarks.*—No. 3 Party is the only one which is not working on the combined system. For a long time the party worked under considerable disadvantages. From several causes which formed the subject of much correspondence, an enormous accumulation of office arrears retarded the proper progress of work. The field branch of the party has been raised to more than its full strength. The outturn during the year is considerable, but may be expected to be exceeded in the current official year. There are no longer any arrears of office work to hinder progress; certain additions and alterations that have to be made to the demarcation performed by the Settlement Department are the only impediments to rapid progress.

103. *No. 4, Survey Party.*—No. 4, Survey Party, was employed in the districts of Tinnevely, Madura and Trichinopoly under the orders of Mr. H. Gompertz up to 10th November 1874, when Colonel W. H. Hessey, Deputy Superintendent, Revenue Survey, assumed charge.

Tinnevely	I. Sankaranayanarcovil	...	{	Completing the Maps of Government villages and demarcating and surveying the boundaries of several Zemindaries.
	Streevilliputtur	...		
	Sattur	...		
Madura	II. Periacolum	...	{	Surveying in detail Government villages in the first-named taluq and Zemin villages in the last two estates.
	Bodinaickanur Zemindari.	...		
	Guntamanaickanur	...		
Trichinopoly	III. Trichinopoly District	...	{	Completing the survey of Zemindaries.
	Kulittalai Taluq	...		

104. A survey of the tract of land about 133 square miles in dispute between Government and the Zemindar of Kanivady has been completed, and a map furnished to the District Judge of Madura. The survey of the boundary between the Travancore State and Tinnevely District had been commenced, and was in progress. Nearly seven miles had been surveyed at the close of the year.

105. The outturn is as follows:—

	SQ. MILES.
1. Boundaries surveyed	181
2. Fields measured	288
3. Fields plotting completed	101
4. Details inserted.	
{ 16 inches 373	
{ 4, 2 and 558	
{ 1 inches	931
5. Maps sent to Central Office	1,260
6. Minor Circuits traversed	No. 754

106. In the Tinnevely District, 56.5 linear miles of boundaries of Zemindaries have been demarcated and surveyed and maps have been lodged in the Central Office. The survey of the hills adjoining Travancore is the only portion wanting to complete the district.

107. The survey of the Periacolum Taluq as far as field measurement is concerned was almost completed at the close of the year under report.

	By Survey.	Fields measured.
	SQ. MILES.	SQ. MILES.
Periacolum	262	278
Bodinaickanur	69	74
Guntamanaickanur	58	85
Total	389	437

108. The Survey had many difficulties to contend with, the chief being the ignorance of Curnams, the difficulty in procuring labor, the opposition of the Zemindari ryots and their disinclination to purchase stones.

109. No fines have been imposed for non-attendance on the survey.

110. The whole of the traverses of the Periacolum Taluq have not been run and no test by Grand Trigonometrical Survey has therefore as yet been applied.

111. The work of No. 4 Party has, however, been connected with thirty-three G. T. stations in former years and the average error per mile is + 4.81 and - 11.30 feet.

112. The season has not been favorable, many men in the Guntamanaickanur Zemindari reported sick.

113. There have been few gross cases of misconduct.

114. The expenditure has been Rupees 62,897-9-8, as shown below:—

	RS.	A.	P.
Tinnevely	27,729	13	3
Trichinopoly	3,596	15	4
Madura	24,101	4	6
Bodinaickanur	4,817	2	7
Guntamanaickanur	2,652	6	0

credited to Government.

115. *No. 4, Demarcation, part of No. 4, Revenue Survey Party.*—No. 4 Demarcation.—This party which is a part of No. 4, Revenue Survey, has been chiefly engaged in the Government villages of the Periacolum Taluq and in the Bodinaickanur and Guntamanaickanur Zemindaries situated in the same taluq which are being demarcated in detail.

116. The preliminary sketch of the Melur Taluq has been commenced. The demarcation of boundaries of Zemindari estates situated in the Sankaranayanarcovil, Streevilliputtur and Sattur Taluqs of the Tinnevely District has occupied a large detachment for some months.

117. The amount of work performed is given below:—

	SQ. MILES.
1. Boundaries demarcated	346
2. Fields do.	208
3. Do. in progress	175
4. Sketches handed over	265

118. The expenditure has been on—

	RS.	A.	P.
Establishment	17,322	6	1
Stones	206	15	7

119. The number of marks erected are as follows:—

Boundary stations	2,411
Division do.	5,043
Field do.	143,193

Of these, three have been

120. Thirty-nine disputes have been settled during the year. Of these, three have been disposed of under the Boundary Act.

121. In sixteen cases, fifty-four persons have been fined Rupees 146 under Section 4 of Act XXVIII. of 1860. Under Section 9, one case occurred. This was tried by the Deputy Magistrate of Periacolum Taluq, and the offender fined.

122. No advances on account of stones have been made to ryots.

123. The season has not been healthy.

124. *General Remarks.*—Funds being required by the Superintendent for Nos. 2 and 3 Survey Parties, the allotment of No. 4 Party has been smaller than usual; notwithstanding this it has been worked on the combined system. Considering the small sum at the disposal of the party, the amount of work performed cannot be considered unsatisfactory. It has completed all the Revenue Survey work proper of the Tinnevely District, and has also completed the topographical survey of Zemindari tracts situated in the plains. It must wait for the completion of the

125. *No. 5, Survey Party.*—No. 5, Survey Party, was employed in the North Arcot District Arcot, Walajah, Vellore, Polar, Gariatnam, in the taluqs named in the margin under the

in the taluqs named in the margin under the orders of Mr. W. Beaumont, Deputy Superintendent, Revenue Survey.

127. In the Wallajah Taluq, the field measurement has been brought to a close except in three villages, and the boundary and topographical surveys are both approaching completion. In nineteen villages of the Vellore Taluq, there are arrears of field survey. The boundary and topographical surveys are progressing. Work is being carried on in the Polur Taluq on the combined system by a large party. In the last-mentioned Taluq, the boundary and topographical surveys are both approaching completion.

128. The topographical survey of Kalastry Zemindari, on which a strong party has been engaged, would have been completed at the end of the official year under report, but for an unsettled dispute between the Zemindari and the Chendragherry Taluq.

129. The amount of work performed during the year is given below :—

Boundaries surveyed ...		SQ. MILES.
1. Boundaries surveyed ...	...	860
2. Fields measured ...	...	467
3. Do. plotting completed ...	...	472
4. Details inserted... { 16 inches ...	...	337
5. Maps sent to Central Office { 4, 2, and 1 inches... }	...	603
6. Minor Circuits traversed ...	...	1,341
No. 3,441		

131. Besides the survey of the two railway stations already mentioned, and of five stations as per margin in the Karvetinuggar Zemindari, the maps of the railway stations named below have been completed.

1. Chinnamapet.	4. Pattur.
2. Tritany.	5. Poody.
3. Naggary.	

Vellore Taluk

Vellore Taluk.		{	1. Verinjipuram.
Sydapet do.		{	2. Ambur.
Chingleput do.		{	1. Sydapet.
Madrasticum do.		{	2. Adambakum.
		{	3. Adayar.
		1.	Vandalur.
lines of railway, one of thirty-four miles		{	1. Madranticum.
er of sixty-three miles		{	2. Acharavakam.

133. A shrotriem village named Pallam, belonging to the Kalastry Zemindari, has been demarcated and measured at the expense of its proprietor.

134. The Revenue Survey work has been connected with six Grand Trigonometrical stations. The average error per mile is 7.75 feet.

[illegible]

136. Assistance in the way of trained field and office hands, has been rendered by this party to Coimbatore, Cuddapah and Coorg survey parties.

138. The conduct of the subordinates has been good.

139. The expenditure has been Rupees 86,901-0-7 as shown below:-

	RS.	A. P.
Chingleput	392	7 5
Nellore	1,555	8 10
North Arcot	84,953	0 4

141. No. 1, Demarcation Party, attached to No. 5, Revenue Survey Party.—No. 1, Demarcation.—The party has been attached to No. 5, Revenue Survey, and has been under the executive charge of Captain Liardet, Assistant Superintendent.

(1.) Wallajah.—Completed in every respect at a cost of Rupees 52 per square mile.
(2.) Vellore.—Approaching completion.

(4) Wandiwash.—The preliminary sketch of the taluq has been made and the necessary arrangements for the supply of stones have been completed.

1. Boundaries demarcated	...	...	...	...	...	...	1,240.
2. Fields do.	...	...	...	...	...	...	435.
3. Do. in progress	...	...	...	...	...	...	42.
4. Sketches handed over	...	...	...	...	...	...	566.

144. The line of boundary between the Polur Taluq and the Salem District running chiefly on the Javadi Hills has been demarcated up to the trijunction of the South Arcot District as Kalastri, Karvetnaggar, and Arnee. also the line between Wandiwash and Arnee Jaghire. In the Zemindaries named marginally, an area of nearly 528 square miles has been demarcated for topographical survey.

145. The Deputy Superintendent reports, that the cost of demarcation of the Vellore taluk will not exceed Rupees 35 per square mile.

The expenditure has been on—		RS.	A.	P.
Establishment	...	27,476	18	3
Stones	...	3,996	10	7

The latter sum includes a charge of Rupees 19-2-10 incurred on account of demarcation of waste lands laid out in fields.

147. The number of stones of all kinds erected during the year is given below:—

1. Boundary stones	4,186
2. Division do.	10,443
3. Field do.	429,441

148. Two cases have been settled under the Boundary Act, and 652 disputes of minor importance have been adjusted under Demarcation Rules.

149. Stones valued at Rupees 54-10-8 have been supplied to certain ryots in the Wallajah Taluq, in order to avoid delay in the completion of work in certain villages. A sum of Rupees 34,399-11-3 has been recovered by the Collector of Chingleput on account of advances made in former years. Rupees 211-6-9 advanced on account of Arcot Taluq have been recovered and adjusted.

150. Fines, amounting to Rupees 14, were inflicted under the Boundary Act on nine offenders.

151. The season has been very unfavorable to work. The conduct of the subordinates has been good.

152. *General Remarks.*—A large amount of work has been done on the combined system by this party.

153. The Deputy Superintendent has been most successful in reducing the cost of demarcation. It is to be expected that during the current official year the cost will be still further reduced.

154. The Deputy Superintendent makes special mention of the valuable assistance rendered to him by Captain Lirdet. He also mentions the service rendered by Major Thompson who remained in the Javali Hills during a most unhealthy season; it is mainly owing to his presence that the survey of the district boundary on those hills was brought to a successful termination.

155. *No. 6, Half-Survey Party.*—Work was carried on under the orders of Captain Baynes up to 9th April 1874 when Major Clay, Assistant Superintendent, Revenue Survey, assumed charge.

156. The Surveyors have been employed in the boundary survey of Zemindari and proprietary estates and in ordinary survey work in the Government villages of the Gumsur Taluq.

157. The particulars of work performed are as follows:—

	SQ. MILES.
1. Boundaries Surveyed	322
2. Fields measured	91
3. Do. plotting completed	198
4. Details inserted, 16 inch	237
5. Maps sent to Central Office	155
6. Minor Circuits traversed	No. 1,254

158. The survey of the Benakond Reservoir has been finished, the maps and records have been lodged in the Central Office, only twenty-four village maps require to be finally examined to complete the survey of the Berhampore Taluq. The Surada Reservoir is approaching completion.

159. The cost of topographical survey on the year's outturn has been Rupees 28-0-2 per square mile.

160. Two Grand Trigonometrical Survey stations have been connected with the Revenue Survey during the year, but owing to some error in the traverses received for examination the average error per mile cannot be given.

161. The work has in former years been connected with seven G. T. stations, and the average error per mile is +9.67 and 9.68 feet.

162. The work of marking out the true boundary between Teckali Tarla and Mandasa Estates and Purla Kimey Zemindari has been commenced and will shortly be completed.

163. The season has been favorable.

164. The conduct of the subordinates has not been good. One Boundary Surveyor was remanded to his corps, another was transferred to the Cuddapah District for misconduct (since dismissed) fifty-five men of different grades were either dismissed or discharged for bad conduct, &c.

165. The expenditure has been Rupees 59,601-3-11.

166. *No. 2 Demarcation Party, attached to No. 6, Revenue Survey Party.*—No. 2 demarcation half-party attached to No. 6, Revenue Survey, has been employed in the following manner under Major Clay, Assistant Superintendent, Revenue Survey, in demarcating the boundaries of Zemindari and proprietary estates, and also in ordinary demarcation work in the Gumsur Taluq.

167. The appended statement gives particulars of work performed during the year:

	SQ. MILES.
1. Boundaries demarcated	213
2. Fields do.	45
3. Do. in progress	22
4. Sketches handed over	22

168. The demarcation of the Berhampore Taluq and of Mandasa and Purla Zemindaries has been completed.

169. The expenditure has been on—

	RS.	A.	P.
Establishment	15	520	4 10
Stones	188	12	2

170. The number of marks erected during the year is given below:

1. Boundary stations	6,247
2. Division do.	799
3. Field do.	102,235

171. The system of supplying demarcation stones by contract has been adopted in this district, the ryots provide at their own expense all field stones required to demarcate their properties. No advance has therefore been made during the year. Rupees 2,508-15-6 of former advances have been recovered and refunded to Government.

172. The total amount of outstanding advances at the close of the year was Rupees 7,176-10-0. Bills for this sum are in the hands of the taluq authorities.

173. One hundred and eight boundary disputes have been settled, inclusive of eighteen under the Boundary Act.

174. Fines, amounting to Rupees 105, were imposed on seventeen offenders. Two cases have been brought to notice under Section 9. In one, the offender was not detected and the mark was restored at the expense of the adjoining land-holders. In the other, five men were fined each Rupees 10 by the Sub-Magistrate of Teckali.

175. The season has been favorable and fairly healthy. The conduct of the subordinates has, with few exceptions, not been altogether satisfactory.

176. *General Remarks.*—This party is composed of a demarcation and a survey party, each half strength, working on the combined system. For various reasons, chiefly from the difficulty experienced in obtaining and, when obtained, in retaining the services of suitable men, the party has not been so successful in former years as could have been wished.

177. Since Captain Clay assumed charge the state of things has improved, and the completion of the Revenue Survey of the Government villages of the district may shortly be expected.

178. *Central Office.*—The total of the Budget grant for 1874-75 amounted to 7,00,000 Rs.

179. In G.O., No. 796 of 26th June, the Local Government directed the attention of the Superintendent to the long time that the survey of the Cuddapah District had been in hand, and ordered that the completion of that district should be hastened as much as possible.

180. The Superintendent accordingly made large additions to Nos. 2 and 3 Survey Parties, and to meet the additional expenditure reduced the strength of other parties as far as was compatible with efficiency.

181. As there was likely to be a deficit, a sum of 15,000 Rupees was, at the request of the Superintendent, placed to the credit of the Survey.

182. A sum of Rupees 12,892-0-3 was advanced to the Survey on account of the demarcation and survey of the Zemindaries of Bojjanakanur and Guntamanalur in the Madura District. At the close of the year, the actual expenditure debitable to Government was 7,13,433 Rupees.

183. A statement by taluqs of the outturn and cost of field demarcation and field survey and of topographical and other surveys, as well as of plotting and mapping in office, has been

drawn out in the form laid down by the Revenue Board in their Proceedings reviewing the Revenue Survey Report for 1873-74. Considerable difficulty has been found in making out this return, as the necessity for such had not been anticipated.

184. *Expenditure.*—Central Office.—The expenditure on account of the Central Office during the year has been Rupees 44,541-11-0.

185. The photographic establishment has been principally engaged in the reduction of maps, but various miscellaneous work has also been performed for Government and the Revenue Board. The difficulty hitherto experienced in photozincography has been overcome. Captain French was engaged in making some experiments in this branch of the work at Palmanair (2,214 above the sea level) where he succeeded in getting some fair printed reductions of maps and line engravings. It was then supposed that the climate of Madras was not adapted to the photozincographic process, and for a time it was given up. A few months later, some experiments were made in Madras, and slight modifications in the chemical mixtures, success was obtained. The office can now turn out photozincographic prints as clean as photolithography, but with hardly the same despatch.

186. The district maps of Kistna, Tinnevely, Kurnool, and Cuddapah have been under compilation during the year, and are being published in sheets.

187. *Lithographic Establishment.*—During the year, the press has printed in colors 53,820 copies of 1,806 village, estate and waste land block-maps, containing an area of 2,313

	Sheets.	Map complete.
Chingleput	3	Do.
Trichinopoly	4	Do.
Kistna	36	More to complete.
Tinnevely	36	Do.
Kurnool	51	Do.
Total	17	

square miles; 2,550 copies of 17 sheets of the five districts named in the margin; 2,905 copies of twenty-nine taluq maps; 450 copies of the key maps of Ootacamund, Coonoor, and Kotagerry Settlements, Nilgiri Hills; 40 copies of the chart of triangles of Coorg; 50 copies of the Nundial Town map; 870 copies of twenty-nine

railway station maps; 75 copies of Tellicherry Local Fund Circle map of the Malabar District; 120 copies of the skeleton map of the Madras Presidency, showing the progress of survey work, besides miscellaneous sketches and forms for the use of the District Survey Officers.

188. In addition to the above, 35 copies of an outline map of the Madras Presidency for Government; 3,060 copies of 102 eye-sketches of villages of the Tinnevely Taluq, Tinnevely District; 15 copies of a map showing the boundary fixed between Colar District of Mysore and Punganoor Zemindari, North Arcot District; and 30 copies of map illustrating progress of settlement operations in the Madras Presidency were lithographed for the Revenue Settlement Department; 50 copies of the sketch-map of Michael's Valley, Anamallai Hills, Coimbatore District, for Government; 210 copies of map of Mysore, showing Imperial and District roads for Mysore District, for the Collector of Coimbatore; 1,050 copies of three maps of the Cuddapah District for District Manual for the Board of Revenue; 20 copies of a sketch-map of the Golconda and Ramana Districts for the Superintendent of Police; 40 copies of the leased forest map, Anamallai Hills, and 40 copies of map of an additional portion of the combined map of the Nellambur Government Reserve Forest, for the Forest Department, and 100 copies of maps of two divisions of the Cuddapah Plantations for the Forest Department, and 100 copies of the under-mentioned more Municipality.

189. The under-mentioned more Municipality. The six taluqs, comprising an area of 1,806 square miles, have also been prepared, viz., skeleton maps of the six taluqs, comprising an area of 1,806 square miles, showing the Post Offices, roads, village site, and a list of the villages, for the use of the District Engineer, Madras, tracings of the Paupugni and Cheyaur Rivers from the Government Inspectors, Madras, tracings of the Paupugni and Cheyaur boundaries, &c., of the Cuddapah District for the District Engineer, and nineteen districts for the use of the High Court.

190. Of the twenty-nine taluq maps published, fourteen were photolithographed, as also were the sketch-map of Michael's Valley, Anamallai Hills, the map of Punganoor Zemindari, North Arcot District, and the map of the disputed tract between Mysore and Coimbatore.

191. Besides the above-mentioned maps, 1,290 copies of thirty-five village maps of the Tinnevely Taluq, Tinnevely District, containing an area of 111 square miles were re-lithographed for the Revenue Settlement Department, and 2,460 copies of eighty-two village maps of the

	Expenditure	Cost per copy.
	RS. A. P.	RS. A. P.
Thirty-five Village Maps, Tinnevely Taluq	528 9 1	0 6 0
Eighty-two Village Maps, Ettiapuram Zemindari, including cost of paper	896 11 10	0 5 10

Ettiapuram Estate, Tinnevely District, comprising an area of 95 square miles, for the Court of Wards, were lithographed by a temporary establishment during the last five months of the official year and paid for by the Revenue Settlement Department and the Collector of Tinnevely.

192. The sanction of the small temporary establishment paid for from the Budget of the Public Works Department for completing the arrears of taluq work expired with the official year. All arrears had been brought up.

	RS. A. P.
Village and Estate Maps	1,290 2 8
District, Taluq, Miscellaneous Maps and forms	15,633 13 4
Debit on account of repairs to Press, &c.	242 11 6
Debit on account of chemicals, lithographic materials and stores issued	241 3 11

193. The expenditure of the lithographic establishment is given in the margin, and the cost of lithography on village and estate maps is Rupees 6-12-2 per square mile, or 4 Annas 8 Pies per copy.

General Remarks.

194. The Revenue Survey work of the year is briefly given as below:

	SQ. MILES.
Boundaries surveyed	4,602
Fields measured	1,840
Do. plotting completed	2,053
Topographical details inserted	16 inches 3,006
Maps received in Central Office	4 2 2,597 5,603
Minor circuit traversed	7,517
	NO.
	13,294
	SQ. MILES.
Boundaries demarcated	2,496
Fields do.	1,323
Sketches handed over for survey	1,648

195. Deducting cost of Central Office, the total cost of the above has been Rupees 6,48,987-14-6.

196. The cost of Central Office has been Rs. 77,052-12-0. After deducting Rs. 44,541-11-0, cost of superintendence debitable to district surveys, the balance is Rupees 32,511-1-6.

197. For this sum the following work has been done:—

	Number of Maps.	Number of Copies.	Cost.
			RS. A. P.
Village, Estate, and Waste Land Block Maps	1,806	53,820	15,634 8 8
District Sheet Maps	17	2,550	3,341 10 8
Taluq Maps	29	2,905	2,893 0 0
Railway Station and Local Fund Circle Maps	30	945	1,041 10 5
Maps and Sketches for Government, Board of Revenue, Settlement and Forest Departments, Collector, Coimbatore, District Engineer, Mysore, and Presidents, Cuddalore and Mercara Municipalities	116	4,222	816 2 8
Miscellaneous Maps	7	680	216 5 4
Manuscript Sketches and Forms	21	24,769	2,457 0 10
Do. Maps for other Departments			110 10 8
Total	2,024	90,371	32,511 1 6

198. Since the establishment of the Survey in 1853, the following work has been completed:

	SQ. MILES.
Revenue Survey 16-inch scale	41,762
Topographical Surveys 4, 2, and 1-inch scale.	15,768
Special Surveys, large	337
do. reduced	743
Total	58,610

199. The total cost on survey work in districts has been

Central Office	66,70,658
On Demarcation	4,15,398
Total	70,86,056
Grand Total	10,49,480
Grand Total	81,35,536

200. The total area mapped by the Survey since 1858 is as follows:—

	SQ. MILES.
Revenue Survey 16-inch scale	37,813
Topographical Survey 4, 2, and 1-inch scale	14,328
Special Surveys	1,035
Total area	53,176

201. The average cost of work on complete taluqs for survey and mapping has been since 1858 Rupees 119-8-6.

202. The Superintendent very much regrets that owing to the limited means at his disposal for the purpose of topographically surveying Zemindari and other tracts excluded from ordinary Revenue Survey operations he has not been able to complete maps of taluqs and districts to the extent he could have wished.

203. In December last year, the Madras Government sanctioned his proposal to detach one of the Deputy Superintendents to the Northern Division with a party of Surveyors for the purpose of filling up gaps in the district maps.

204. Unfortunately the necessity for increasing the strength of two survey parties for the completion of the Revenue Survey of the Cuddapah District prevented him from being able to set aside funds for the purpose; a commencement has since been made.

205. Ever since 1858, the work of the Revenue Survey has, year by year, been connected with such Great Trigonometrical points as were favorably situated for proof of Revenue Survey work. The total number of points so connected is 291.

206. The average difference between the work of the Revenue Survey and the Great Trigonometrical work is 1-26 and -8-35 feet per mile.

207. When the gaps caused by the omission from survey of all but Government land shall have been filled up, the Superintendent will be in a position to render available for the revision of the sheets of the Atlas of India geographical materials extending over no less than 66,158 square miles.

CHEPAUK,
22nd December 1875.

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

Enclosure No. 2.
Return of Area surveyed and Cost incurred during the Official Year 1874-75.

Parties.	Districts.	Extent measured in Square Miles.	Actual Expenditure during the year.	Estimated Measurement.	Expenditure including estimated Measurement.	Share of Central Office excluding Regimental Allowance.	Expenditure for the District in share of Central Office.	CHARGEABLE TO GENERAL FUND.				Grand Total.
								Regimental Allowance.	Measurers and Coolies.	Instrumental.	Total.	
No. 1	Cointatore.	455	61,009 7 7	1,200	62,209 7 7	2,241 0 10	64,510 8 5	8,201 2 0	1,680 1 6	435 5 0	10,318 3 11	74,828 12 4
" 2	Kurnool, Bellary and Cuddapah.	1071	77,304 14 11	2,400	79,704 14 11	2,840 2 5	82,635 1 4	4,617 15 11	297 6 6	2,378 5 6	7,233 11 11	89,868 13 3
" 3	Cuddapah.	1162	1,04,688 8 10	3,000	1,07,688 8 10	3,839 14 4	1,11,478 7 2	3,454 10 4	81 15 0	5,191 7 6	8,729 0 10	1,20,206 8 0
" 4	Madura.	288	25,486 8 7	1,900	27,386 8 7	935 4 5	28,321 13 0	5,560 5 0		2,486 0 4	8,046 5 4	36,368 2 4
" 5	North Arcot.	860	77,954 3 9	3,000	80,954 3 9	2,860 10 8	83,814 14 5	7,254 1 6	123 11 9	1,585 14 9	8,971 12 0	92,786 10 5
" 6	Ganjam.	322	45,322 9 6	600	45,922 9 6	1,023 3 0	47,585 2 0	5,569 10 2		7,10 9	6,577 4 11	53,163 0 11
" 7	Salem and Trichinopoly.	231	25,341 0 1		25,341 0 1	929 14 11	26,270 15 0	545 9 5			545 9 5	26,816 8 5
" 8	Nistna.	15	3,798 6 2		3,798 6 2	139 6 2	3,937 12 4	81 12 3			81 12 3	4,019 9 0
" 9	Tinjavelly and Trichinopoly.		81,326 15 7		81,326 15 7	1,140 9 5	32,476 6 0	674 7 9			674 7 9	33,150 13 9
" 10	Chingleput and Nellore.		1,958 0 3		1,958 0 3	71 13 8	2,029 13 11	43 5 5			42 2 5	2,072 0 4
" 11	Nilgiris.	28	20,602 5 8		20,602 5 8	976 3 6	27,578 3 2	572 13 1			572 13 1	28,151 4 3
" 12	Wyand.	10	20,565 8 9		20,565 8 9	754 11 1	21,320 3 10	442 12 6			442 12 6	21,763 0 4
" 13	Madurai.		1,024 8 3		1,024 8 3	37 9 5	1,062 2 2	22 0 11			22 0 11	1,084 3 1
" 14	Stevanoy Hills.	103	1,275 14 5		1,275 14 5	46 13 2	1,322 11 7	27 7 6			27 7 6	1,349 11 1
" 15	Malabar.	27	954 3 1		954 3 1	35 0 2	989 3 3	20 8 9			20 8 9	1,009 3 1
Total	Total	4,575	7,04,712 14 5	13,100	7,17,812 14 5	18,521 5 3	7,36,334 3 8	37,087 6 11	2,138 13 9	12,068 12 1	31,305 0 11	8,68,639 4 7

CHEPAUK,
22nd December 1875.

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

ENCLOSURE No. 3.

Statement of Comparative Distances between Grand Trigonometrical Stations.

Districts.	Stations.	DISTANCES.		Difference.	Error per mile.
		By Trigonometrical Survey.	By Revenue Survey.		
Nil.	Shoremallai to Janikal Droog	FEET. 122,486	FEET. 122,506	FEET. + 20	FEET. 0.86
	Rangamallai to Caroor Pagoda	127,502	127,148	- 354	14.65
Coimbatore.	Do. to Tallamallai	213,312	212,850	- 462	11.43
	Dodabetta to Coonoor, No. 2	31,363	31,427	+ 64	10.77
Bellary.	Do. to Pakasuramallai	44,248	44,203	- 45	5.13
	Koribetta to Coonoor, No. 2	5,061	5,074	+ 13	10.42
North Arcot.	Adonidroog to Kerra Bellagal H. S.	153,965	153,687	- 278	9.53
	Do. to Palikonda H. S.	129,677	129,483	- 194	7.90
Bellary.	Goodicubetta to Kanningut H. S.	68,086	67,982	- 104	8.05
	Kerra Bellagal H. S. to do.	141,327	141,159	- 168	6.27
North Arcot.	Pillimer H. S. to Kalastri, Pagoda	38,734	38,816	+ 82	11.18
	Anandalamallai H. S. to Kurrangota or Anantapooram	131,366	131,226	- 140	5.63
North Arcot.	Tondamanad Pagoda to Pillimer H. S.	59,139	59,091	- 48	4.28
	Do. to Yernat H. S.	41,865	41,993	+ 128	16.14
North Arcot.	Average error Revenue Survey				+ 6.70
					- 8.85

CHEPAUK,
22nd December 1875.(Signed) F. J. B. PRIESTLEY, Colonel,
Superintendent of Revenue Survey.

ENCLOSURE No. 4.

Statement showing the Extent demarcated and the Expenditure incurred during the Official Year 1874-75.

Parties.	NUMBER OF VILLAGES.		Actual work in Square Miles.	Cost.	Share of Central Office.	Total.	Cost of Pillars.	Total, including Cost of Pillars.
	Completed.	In progress.						
No. 1 Demarcation	286	18	1,240	27,476 13 3	4,056 12 2	31,533 9 5	3,935 10 7	35,530 4 0
" 2 Do.	115	21	218	15,520 4 10	2,291 7 5	17,811 12 3	680 12 2	18,492 8 5
" 3 Do.	42	37	51	16,972 1 8	2,505 13 0	19,477 14 8	2,694 12 0	22,172 10 8
" 4 Do.	36	3	34	17,322 6 1	2,557 8	19,879 14 6	206 15 7	20,086 14 1
" 5 Do.	76	60	371	25,346 9 8	3,742 4 0	29,088 13 8	610 14 8	29,699 12 4
Total	555	139	2,681	1,02,638 3 6	15,153 13 0	1,17,792 0 6	8,190 1 0	1,25,982 1 6

CHEPAUK,
22nd December 1875.

(Signed)

F. J. B. PRIESTLEY, Colonel,
Superintendent of Revenue Survey.

ENCLOSURE No. 5.
Statement of Expenditure of the Revenue Survey, Lithographic Department, for the Year 1874-75.

Description of Maps, &c., lithographed.	Number of Copies	Expenditure	Remarks.
Village Estate and Waste Land Block Maps ...	53,820	Rs. 15,634 5 8	
77 Sheets of 5 District Maps ...	2,550	3,341 10 8	
29 Taluk Maps ...	2,905	8,853 0 0	
Key Map of the 3 Settlements on the Nilgiri Hills ...	450	80 0 0	
Chart of Triangles, Province of Coorg ...	40	35 0 0	
Nundial Town Map ...	50	34 2 8	
29 Railway Station Maps ...	870	821 0 0	
Local Fund Circle Map of Tellicherry and Malabar District ...	75	220 10 8	
Skeleton Map of the Madras Presidency showing progress of Survey work ...	130	38 2 8	
Outline Map of the Madras Presidency for Government ...	35	119 10 8	
12 Eye-sketches of the Tinnevely Taluk, Tinnevely District ...	3,060	106 10 8	
M.P. of Boundary fixed between Mysore and Puzanoor Zemindaries, North Arcot District. Mar. illustrating Settlement operations in the Madras Presidency ...	15	20 13 4	
Map of Michael's Valley, Anamallai Hills, Coimbatore District ...	30	19 8 0	
Map of Mysore showing Imperial and District Roads ...	50	22 5 4	
Map of disputed Tract between Mysore and Collegal Taluk, Coimbatore District ...	210	31 10 8	
3 Maps of the Cuddapah District for the District Manual ...	12	15 1 4	
Sketch Map of Golconda and Rampa Divisions, Godavery District ...	1,050	75 0 0	
Map of Leased Forest, Anamallai Hills, Coimbatore District ...	20	29 0 0	
Combined Map of Nellambur Government Reserve Teak Plantations (additional portion). 2 Divisions of the Cuddalore Municipality ...	40	24 13 4	
mercara Taluk and Municipal limits, second edition ...	100	29 8 0	
Miscellaneous sketches and forms ...	50	281 4 0	
Manuscript Maps.	24,769	69 13 4	
Skeleton Map of Taluqs composing the Chingleput District ...		2,457 0 10	
Map of the Ponguni and Cheyaur Rivers, Cuddapah District ...		4 0 0	
Boundaries, &c., of Magisterial Divisions entered in 19 Ordnance Sheet Maps of India.		10 10 8	
		96 0 0	
Total ...	90,371	32,511 1 6	

CHEPAUK.
22nd December 1875.

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

ENCLOSURE No. 6.—Statement showing extent of Boundary Demarcation, and Survey.

ENCLOSURE No. 7.—Statement showing Field Demarcation and Survey.

ENCLOSURE No. 8.—Statement showing extent of Plotting.

ENCLOSURE No. 9.—Statement showing extent of Mapping.

ENCLOSURE No. 10.—Statement showing extent of Topographical Survey.

With the foregoing letter, the Superintendent, Revenue Survey, has his report on the operations of the Survey Department for the official year 1874-75 for submission to Government. The work performed by each party will be noticed in order.

2. No. 1, Survey Party.—The operations of this party, extended over a very wide area embracing portions of the Coimbatore, Salem, Trichinopoly, Malabar, and Nilgiri Districts. In the first mentioned district the taluk of Dharapuram, and Caroor, Pollachi, and Udamalapettah were reported incomplete last year. In the year under report the survey and mapping of Dharapuram have been completed and Caroor is nearly finished. The demarcation and survey of Pollachi on the combined system has also been completed, and in Udamalapettah only 103 square miles remain. Collegal is still untouched. The total extent measured was 45 square miles.

3. In Salem, a portion of the establishment was engaged in surveying district boundaries and in the Topographical survey of Zemindaries and jungly Santa unsuited for Revenue survey, with a view to the completion of the taluk maps. Topographical work of a similar nature was carried on in Trichinopoly as well as the survey of the Pachamalai Hills and Malayalappatti Forest.

A portion of the party was also engaged in road survey in Malabar, 79 miles being executed, and in the survey and demarcation of the true boundaries between Coimbatore and Malabar, and between Mysore and Salem. Detachments from the party were engaged on the Nilgiris, Shevaroy, and in the Wynad, in the survey and demarcation of waste land blocks, estates, and village tracts. A portion of the district boundary between the Nilgiris and Wynad was surveyed and surveyed, as was also the eastern boundary of Mr. Ouchterlony's estate. The total area surveyed by the party excluding the Nilgiris, Wynad, and the Shevaroy Hills, amounted to 819 square miles boundaries surveyed, and 102,951 square miles fields surveyed, at a cost of Rupees 25,482.

4. No. 3, Demarcation Party, forms a part of No. 1, Revenue Survey Party, was engaged principally on field work, in the Pollachi and Udamalapettah Taluqs of the Coimbatore District, and in the demarcation of district boundaries in Coimbatore and Salem. The outturn of work was 511 square miles of boundaries demarcated at a cost of Rupees 16,972, the number of marks erected being 102,951.

8. ste

No. 1, Survey Party.

[illegible]

Survey Party.—This party was occupied with ordinary survey of the Adoni Taluq, Bellary; Bapatla Taluq, Kistna; and Khadri Taluq, Kurnool; the des testing, detailing, and hill-sketching in the two former, and in the latter. Gumbum and Markapur Taluqs of Kurnool. The survey of the last mentioned Taluqs has been completed, and that of the Adoni Taluq would have been finished, but for the want of the staff owing to want of funds. The area surveyed was 1,086 square miles at a cost of Rupees 85,465.

No. 5, Demarcation Party, forming a portion of No. 2, Revenue Survey, was employed in demarcating the true boundaries of the Vinucondah, Palnad, Sattipalli and Narasarowpet Taluqs of this District, in ordinary field demarcation in the Adoni Taluq of Bellary District, settlement of the disputed boundary of the Gundur Jaghire in the same District, &c. A total of 110,036 marks were erected, and 174 square miles of boundary being surveyed at a cost of Rupees 5,346.

8. The following statement exhibits the purposes:—

No. 2, Survey Party.

Boundary Demarcation.												80			
Field Survey.												40			
Plotting.												Mapping.		Topographical Survey.	
District.		Boundary Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.					
Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.				
SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.				
Bellary...	175	5,173	1,044	11,060	371	21,963	362	10,118	279	5,573	578				
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* Includes 20 square miles merely verified.
† " 17

1. Sidhout.	4. Royachoti.
2. Budwail.	5. Pulivendla
3. Pullampett.	6. Voilpad.

ed; in the fourth, the field areas are ready for settlement, and in the fifth, the field and boundary surveys have been completed. Progress in Voilpad is retarded by the irregular shape of the fields, and the interspersed Inam with Ayan larsan. A considerable amount of work has also been accomplished in the survey of the main and minor circuits and hill surveys. The total area is given as 1,163 square miles and the cost at Rupees 1,07,344.

10. The following statement exhibits details of the area and cost in the several branches for purely revenue purposes:—

No. 3, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Telegraphic Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
Cuddapah ...	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.
...	...	...	*777	28,815	...	...	452	24,909	478	20,242	1,137	4,926	1,137	19,609

11. *No. 4, Survey Party.*—This party was at work in the Tinnevely, Madura, and Trichinopoly Districts. In the first mentioned district the completion of the maps of Government villages in the Sankeranayanarcovil, St. eevilliputtur and Sattur Taluqs, and the demarcation and survey of several Zemindaries occupied attention. In Madura, a portion of the party was engaged in the survey of the Periacolum Taluq and the Bodinaickanur and Guntamaickanur Zemindaries, and in Trichinopoly in completing the survey of Zemindaries.

The survey of the boundary between Travancore and Tinnevely was also in progress. To complete the Tinnevely District, the survey of the range of hills adjoining Travancore alone remains. Field work in the Periaculum Taluk, Madura District, was almost finished. The outturn was 288 square miles at a cost of Rupees 62,897, according to the figures in the body of the report.

12. No. 4, Demarcation Party, forming a part of No. 4, Revenue Survey, was engaged in the Government villages of Periacolam Taluq, and in the Bonmaickur and Guntamanaickanur Zemindaries, and in the demarcation of boundaries of Zemindaries in the three taluqs of Tinnevely already mentioned. The outturn was 346 square miles at a cost of Rupees 17,322, the number of marks erected being 150,647.

* 385 Square miles also verified.

13. The amount and cost of Revenue survey work proper is shown below:—

No. 4, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.
Madura	111	256	28	3,100	86	10,187	133	8,176	23	2,124	25	1,618	...	...
Tinnevely	...	...	...	...	...	...	...	...	62	1,865	348	4,981	381	2,174
Total	111	256	28	3,100	86	10,187	133	8,176	85	3,489	373	6,599	381	2,174

No. 5, Survey Party.

1. Arcot.
2. Wallajah.
3. Vellore.
4. Polur.
5. Guriattum.

This party was engaged in the marginally-noted taluqs of the North Arcot District. The first mentioned has been completed; in the second and third taluqs field measure-

ment and the Boundary and Topographical surveys were approaching completion. Work was progressing in Polur on the combined system, and in Guriattum the survey of villages within a radius of one mile from the Railway stations of Trivellum and Vellore was undertaken. A detachment was also engaged in the Topographical survey of the Kalastri Zemindari.

15. In the Nellore District the Topographical survey of Velikonda Hill was completed, and the survey of the boundary line between Salem and the taluqs of Vellore and Polur in North Arcot was finished; the health of the subordinates employed having suffered severely owing to the unhealthiness of the locality. In the Karvetinuggar Zemindari the survey of five Railway stations was completed, as also the maps of eight stations in North Arcot and Chingleput, and the survey of 97 miles of Railroad.

The outturn of work was 560 square miles of boundaries surveyed, and 467 square miles of fields measured at a cost of Rupees 86,901.

16. Work was carried on under the combined system by No. 1, Demarcation Party, attached to No. 5, Survey Party, in Wallajah, Vellore, Polur and Wandiwash Taluqs; the first mentioned having been completed at a cost of Rupees 52 per square mile. The actual work in square miles was 1,240, at a cost of Rupees 27,476, the number of marks erected being 444,070.

17. The amount and cost of Revenue Survey work proper is shown below:—

No. 5, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.
North Arcot	767	13,607	516	15,852	435	16,658	465	23,472	496	2,454	418	11,722	373	9,434

* Exclusive of the work performed in Zemindaries.

18. No. 6, Survey Party.—The Surveyors have been employed in the Boundary survey of Zemindaries in Ganjam and in ordinary survey work in the Government villages of the Gumsur Taluq. The demarcation of the true boundary between the Teekali Tarla and Mandasa Estates and Parla Kimsy Zemindari was also undertaken. The outturn was 222 square miles at a cost of Rs. 50,600. The Demarcation Party No. 2, attached to No. 6, Survey, was employed in the same localities, the outturn of work being 213 square miles at a cost of Rupees 15,520, and the number of marks erected amounting to 1,09,233.

19. The Revenue survey of the Government villages in Ganjam is stated to be approaching completion. The work of the year is shown below:—

No. 6, Survey Party.

District.	Boundary Demarcation.		Boundary Survey.		Field Demarcation.		Field Survey.		Plotting.		Mapping.		Topographical Survey.	
	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.	Area.	Cost.
	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.	SQ. M.	RS.
Ganjam	...	...	168	11,101	...	...	...	...	...	...	205	1,995	...	...

This is the only party with respect to which the conduct of the subordinates is unfavorably mentioned.

20. The total work accomplished during the year according to the figures given in the body of the report was as shown marginally, but these figures do not exactly tally with those entered in Statements 1 and 3 of the Appendix.

1. Taking the figures given in Enclosures 1 and 3 for comparison with last year's results, the area measured was 4,575 square miles at a cost of Rupees 5,35,334, or an average of Rupees 117 per square mile against 3,983 square miles at an average cost of Rupees 127. The area demarcated was 2,681 square miles and the expenditure Rupees 1,17,792, an average of Rupees 44 per square mile against 2,530 square miles at an average cost of Rupees 45 in the preceding year.

21. The cost of the Lithographic Department was Rupees 32,511, for which sum 90,371 copies of 2,026 maps were turned out. The Photozincographic process has been successfully employed, the difficulties at first experienced having been overcome. The cost of lithography on village and estate maps is given as Rupees 6-12-0 per square mile, or 4 Annas 8 Pies per copy, against Rupees 4-2-6 per square mile, and 3 Annas 1 Pie per copy last year. The cause of the increase of cost is not explained.

22. The total expenditure of the department debitable to Government amounted to Rupees 7,13,433, against a Budget grant of 7 lakhs.

23. Since the establishment of the Survey in 1853, the department has accomplished the survey of 58,310 square miles of country at a cost of Rupees 70,86,056 on survey, and Rupees 10,49,780 on demarcation. The area mapped amounts to 53,176 square miles, and the average cost of survey and mapping for complete taluqs is stated to be Rupees 119-8-6.

24. When the vast amount of additional miscellaneous work, which cannot be reduced to square miles, is taken into account and the accuracy of the operations as proved by the very slight difference from the results of the Trigonometrical survey is considered, it must be admitted that the progress made both in the year under review and in the past has been eminently satisfactory, and that the results achieved reflect the greatest credit on the Superintendent and his department.

25. In conclusion the Board observe that in reviewing the present report some difficulty has been experienced in ascertaining exactly what has been accomplished and the cost. The figures given in the body of the report do not tally with those entered in Statements 1 and 3, which have been taken as purporting to show the whole work of the department as regards Survey and Demarcation. Further, the returns are defective in that the existing state of things in each district cannot be gathered from them. There is no apparent reason why the statements should not be framed so as to show the taluqs completed in every respect, those hitherto untouched, and the stage at which those in hand have arrived, with details of the work done and cost under each of the heads of Boundary Demarcation and Survey, Field Demarcation and Survey, Plotting, Mapping, and Topographical Survey. The amount of work accomplished for purely revenue purposes should also be distinguished from work undertaken in Zemindaries &c. With this object the Board prescribed the adoption of a form in use in the Settlement Department, but Colonel Priestley states that great difficulty has been experienced in the compilation of the returns which are still incomplete. It is obvious that a great amount of labor has been entailed by the preparation of the five new forms which accompany the present report, and the form which is used in the Settlement Department for Field Demarcation and Classification purposes only is not adapted to all the operations of the Survey Department, as is plain from Columns 5 and 6, the former being intended to show the area within the external boundaries of villages, the latter the area laid out into fields.

26. One form should suffice for all operations, as it is quite unnecessary for the purposes of the annual review that the several items of which the total cost is composed should be exhibited. The cost of each operation can be shown in the lump, but it should include all items fairly debitable, as for instance, a proportionate share of the cost of the Central Office; from the figures adopted in the body of the report it would appear that this course is not now followed in making the computation. Columns to show the average cost per square mile are unnecessary as they serve to increase the length of the statements considerably, and, as the several operations are not carried on simultaneously in any given area, no conclusions can be drawn as to the cost of the several branches combined till the whole taluq has

been completed. The average cost of each operation per square mile can easily be deduced, if required, from the total areas and expenditure given.

27. The Board request, therefore, that the Superintendent, Revenue Survey, will remodel the returns so as to give in a compact shape such of the information indicated above, as is procurable, without entailing undue labor, so that it may be possible to gather from the returns themselves exactly what has been accomplished. The Board believe that the monthly returns in use in the Survey Office will suffice for the compilation of annual returns of the kind required.

(True Copies and Extract.)

C. L. ...
Acting Secretary.

To the Secretary to Government, Revenue Department,
with five original Statements, to be returned.

„ the Superintendent of Revenue Survey.

Copy to the Director of Revenue Settlement.

Exd. W. H. French.

25 16-2-91-2.197-98
 25 25-4-91-2.29-30
 26 6-6-91-2.29-30
 10-1-91-2.29-30
 27-2-18-187-187-60

Recorded

This report like that for the
 previous year shows very satisfactory
 progress

14 Letter Board of Revenue
 12 the Deputy Commissioner

9 May 1876

and me a private copy

Board of Revenue,
 MADRAS.

Recd 1876. 24th April

PROCEEDINGS, 5TH APRIL 1876, No. 922.

20 April 1876

Ends

Received 3 May 1876

APRIL

No. 922.

Survey Department.—Reviewing report of
 Superintendent of Revenue Survey on the opera-
 tions of — for the official year 1874-75, and
 requesting that officer to remodel the returns
 submitted by him.

20 May 1876
 9 May 1876