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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

G.O. No. / B.P. No: 1818	Press. / Mis.
Dated 12.11.1878	197 .

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GOVERNMENT OF MADRAS.

1818/1

REVENUE DEPARTMENT.

12th November 1878, No. 1,818.

Read the following paper :—

No. 142. Proceedings of the Board of Revenue, dated 30th September 1878, No. 2,672.

Read the following letter from Lieutenant-Colonel A. DEC. SCOTT, R.E., Superintendent, Revenue Survey, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Kotagiri, 10th July 1878, No. 2,368-43 :—

I HAVE the honor to forward, for the information of the Board, my Annual Report on the operations of this department for 1877-78.

ENCLOSURE No. 1.

Total outlay of the year compared with estimate.

THE total outlay during the year on Surveys amounted to Rupees 7,39,420-11-9 as compared with an estimated outlay of Rupees 6,98,000 and an average outlay of the three preceding years of Rupees 7,24,500. There was thus an excess expenditure of Rupees 41,420-11-9. The outlay as given above includes an expenditure of Rupees 22,242-3-5 on the survey of Zemindaris, which will be repaid to the Government. A considerable portion of the Survey Establishment was engaged during the year on duties connected with famine relief; the total average strength during the year of the detachments transferred to the Revenue Officers for this purpose amounted to 4 superior officers and 282 subordinates of various grades, and the aggregate outlay on this account to Rupees 88,378-14-8. It was not until the latter portion of the year that it was finally decided to charge the cost of this establishment against the Survey Budget Grant, and the expenditure on survey work had in the meantime been regulated on the contrary supposition. It was to these circumstances that the excess outlay referred to was due.

Results of expenditure in outturn of work.

The general results of the expenditure are exhibited in the subjoined statement, which shows the area of the outturn of the year under the various distinct processes of survey and also compares it with the outturn of each of the two preceding years :—

Nature of Work.	Outturn of 1875-76.	Outturn of 1876-77.	Outturn of 1877-78
	SQ. MS.	SQ. MS.	SQ. MS.
Revenue Survey.			
Boundary demarcated	2184·93	3198·07	2766·43
Fields demarcated	811·99	966·75	576·91
Boundary surveyed	4970·20	4853·32	4414·36
Fields surveyed	1607·94	1636·71	946·34
	NO.	NO.	NO.
Minor Circuits traversed	19,290	12,167	5,173
	SQ. MS.	SQ. MS.	SQ. MS.
Fields plotted	1586·43	1347·09	1228·49
Area detailed	2038·24	1291·15	1418·00
Area ready for Settlement Dept. ...	3800·61	1914·84	1822·54
Maps sent to Central Office	4523·38	2521·08	2043·57
Topographical Survey.			
Surveyed 4-inch scale	302·24	116·83	75·31
Do. 2-inch „	2176·74	1967·90	3191·80
Publication.			
Published 16-inch „	3420·00	3545·56	3604·72
Do, smaller scales	...	...	2394·20
	NO.	NO.	NO.
Maps, printed copies	104,245	148,367	144,903
	RS.	RS.	RS.
Total expenditure	7,16,433	7,00,157	*6,28,800

* Exclusive of outlay on establishment employed on famine duty.

The proportion of the outturn attributable to each Survey Party and belonging to each district in which operations were carried on is shown in detail in Appendices Nos. III and IV to this report.

Rates or cost of work per unit of area.

It is difficult to institute any exact comparison between the results of different years in relation to the expenditure where these are not reduced to a common standard for the several denominations of work. In point of fact it is necessary for this purpose that standard rates should be established for boundary demarcation, field demarcation, boundary survey, &c. A system of accounts framed to meet the end referred to has been introduced, but it has not been sufficiently long in operation to enable rates in general to be derived. They have, however, been obtained for the work of publication carried on in the Central Office, and are as follows :—

—	Unit.	Publication.	General Charges at 25 per Cent.	Total Cost.
		Rs. A. P.	Rs. A. P.	Rs. A. P.
Village Maps on the scale of 16 inches to a mile.	One sq. mile.	4 3 8	1 0 11	5 4 7
Village Maps (Agraharam) on a scale of 4 inches to a mile.	Do. ...	1 12 0	0 7 0	2 3 0
Coffee Estate and Waste Land Maps on a scale of 16 inches to a mile.	One acre ...	0 2 0·3	0 0 6	0 2 6·3
Taluq Maps on a scale of 1 inch to a mile...	One sq. mile.	1 14 0	0 7 6	2 5 6
District Maps on a scale of 1 inch to a mile.	Do.	0 8 0	0 2 0	0 10 0
Miscellaneous Maps	One sq. of 100 sq. inches of maps.	70 0 0	17 8 0	87 8 0

The cost of publication includes that of printing and coloring a standard number of copies, and the rate includes charges for storage, contingencies, and supervision. The accounts introduced in the Central Office have already been of practical use in indicating directions in which economies could be effected. They form a basis for the establishment of contract work which is a system admirably suited for certain processes which are carried on. The rates of the current year form also points of departure from which the results of succeeding years' administration can be measured, but, as the cost of the work of previous years has not been satisfactorily ascertained, no retrospective comparison can be made. The general results of the work of the Field Parties will probably be considered satisfactory, due regard being had to the extremely unfavorable circumstances under which operations have been carried on in all the districts under survey. The outturn of the year 1877-78 is under most of the heads shown in the statement of results below the average of the two preceding years, but there is an increase in the area topographically surveyed of 985 square miles, and a decrease in the expenditure on surveys generally of Rupees 80,495. The progress both of demarcation and survey largely depends on the co-operation of the villagers, who supply field stones and labor for fixing them, clear chain lines, assist in the measurement of their fields, and afford shelter and supplies to the Surveyors. In many parts of the country the villages were depopulated by famine, and the prevailing scarcity so impoverished the ryots in others that they could not afford to pay for their field boundary stones. Everywhere there was the greatest difficulty in obtaining labor which was attracted to the centres of relief operations. A considerable portion of the budget grant was expended in the payment of the establishment employed on relief duties, and which gave no outturn of survey work during the year. Under the foregoing circumstances a falling off in progress was to be expected, and it was only the zealous exertions of the Deputy Superintendents and Officers employed with the Field Parties who were working under such exceptional difficulties which prevented a still greater reduction of outturn.

Measures of reorganisation.

In June 1877 a scheme for the reorganisation of the Department prepared by Colonel Hessey was finally approved of by the Government of India. It consisted in the introduction of a new scale of

salary for the officers, the reduction of their number from nineteen to sixteen, and the grant to them of travelling allowance at Bengal rates. A revised scale of establishment was adopted for the Central Office, half a Survey Party was abolished, and the original organisation of five-and-a-half Survey Parties and two-and-a-half Demarcation Parties was changed to five Combined Survey and Demarcation Parties. The scheme involved an aggregate expenditure of Rupees 7,27,593-8-0 per annum. In pursuance of the sanctioned arrangements, the half Party in Ganjam was converted into a detachment of No. 5 Party, and a considerable number of the least efficient subordinates who were in excess of the new scale of establishment were discharged. Other supernumeraries will be gradually absorbed. The total strength of the Department on the 1st April 1877 and 1st April 1878 is contrasted below :—

	1st April 1877.	1st April 1878.
Superintendent	1	1
Deputy Superintendents	5	5
Assistant do.	12	12
Sub-Assistants or Inspectors	22	17
Head Surveyors	63	64
Deputy and Detail Surveyors or Sub-Inspectors ...	285	268
Field Surveyors, Amcens or Field Gumastahs ...	609	496
Measurers	887	812
Office Managers	5	4
Computers	210	175
Draughtsmen	387	343
Clerks	49	58
Duffadars, Head Peons or Peons	436	355
Muchies, &c.	140	159
Hospital Assistants	7	7

Comparison of area in the Presidency surveyed and remaining to be surveyed.

Survey operations have up to the present date been extended into eighteen districts of the Madras Presidency with an aggregate area for survey estimated at 111,197 square miles, viz., Ganjam, Gódávari, Kistna, Kurnool, Bellary, Cuddapah, Nellore, Chingleput, Madras, North Arcot, South Arcot, Salem, Coimbatore, Nílgiri, Trichinopoly, Madura, Tinnevelly, Wynád Taluq, Malabar District. Of this area it is assumed that 58,151 square miles will be surveyed for revenue purposes, for a scale of map of 16 inches to a mile, and the remainder (53,046 square miles) with a view to the preparation of topographical maps on smaller scales. Up to the end of the year under review the Cadastral or Revenue Survey had been completed for a total of 47,360 square miles, and the topographical or small scale survey for an area of 29,607 square miles. Thus there remains out of the area referred to—for Revenue Survey 10,791 square miles, for topographical survey 23,439 square miles. The question of extending the Revenue Survey to the districts of Vizagapatam, Tanjore, South Canara, and Malabar below the ghauts has not yet been settled. The total area involved is about 29,936 square miles, of which a considerable portion is cultivated under ryotwari tenure ; but in the detailed statement of areas for survey, Appendix VI, the whole has been entered as for topographical survey only, raising the total to 42,975 square miles.

Distribution of Parties. Localities of Survey.

During the year 1877-78 Field Detachments were employed in thirteen districts of the Madras Presidency, viz., Ganjam, Gódávari, Kurnool, Bellary, Cuddapah, North Arcot, South Arcot, Coimbatore, Nílgiri, Salem, Malabar, Madura, and Tinnevelly. In Ganjam the demarcation and survey for revenue purposes of the more cultivated portions of the Goomsur Taluq were in progress, and will probably be completed in July 1878. The Revenue Survey for the Court of Wards of the Jaláutra Estate was brought to a close, and the topographical survey of the Zemindaris of Mandasa, Turla, Bárwa, Aska, Tekkali, and Parla Kimedi was completed. Boundary demarcation and survey were in progress in the Zemindaris of Budarisingi, Chíkati, Dhárákóta and Humma. The survey in this district was until October held as a separate charge by Mr. Merriman, Assistant Superintendent, and thereafter it was placed under the direction of the Deputy Superintendent of No. 5 Party, Mr. Merriman continuing in immediate control. The difficulties connected with the conduct of work in the district are exceptionally great, and this officer has labored zealously to overcome them. A detachment of Surveyors belonging to No. 5 Party under Civil Assistant Mr. Fraser has

been employed in the topographical survey of the portion of the Gódávari District included within the Coringa, Cocanáda, Pithápuram, and Tuni Divisions, and the Peddápuram Taluq. The unhealthiness of the tract and the isolated position of the party have militated against the progress of the work. It is proposed to complete the topographical survey of the three divisions first named containing 340 square miles and the boundary demarcation and survey of the remainder, and then to remove the detachment. The work as laid out will probably be completed in September 1878. In Kurnool a detachment of No. 2 Party was engaged during the year on the Nallamalai Hills. An area of 1,119 square miles was sketched by plane table on a scale of half an inch to a mile with a view to the completion of the sheet of the Atlas of India containing the tract in question. In Cuddapah detachments of two Survey Parties were engaged. Those of No. 2 in Kadiri and Madhanapalle, those of No. 3 Party in Madhanapalle and Váyalpád. The village maps of all those taluqs will probably be completed in 1878-79, and with them the whole district except a small portion of an excluded tract on the southern boundary. In Bellary District the survey of the taluqs of Adóni and Allúr were in progress during the year under the Deputy Superintendent of No. 2 Party. The first has been completed in every respect. Preliminary operations were commenced in Penukonda Taluq by No. 3 Party, and it is anticipated that by the commencement of 1879-80 two full parties will be concentrated for the survey of this large district. The Revenue Survey of North Arcot is drawing to a close, expenditure on the taluqs of Wandiwash and Gudíyátam surveyed by No. 5 Party has ceased, and the accounts show a cost per square mile for demarcation and survey in the first of Rupees 178-5-1, in the second of Rupees 106-9-1 per square mile. The boundary and field survey of Chandragiri and half Chittúr Taluqs have been completed by No. 5 Party, and the field survey of the last remaining taluq, Palmanair, undertaken by No. 3 Party is in progress. This Party has also completed the field survey of the half of Chittúr left by No. 5. The topographical survey of the Kárvátnagar Zemindari has been completed at a cost of Rupees 22-6-3 per square mile, and that of Kangundi Zemindari is in hand. The Revenue Survey of South Arcot has been fairly commenced by No. 5 Party, the Tindivanam Taluq being the first taken up. Demarcation and survey are in full progress and the preliminary operations for the survey of the adjoining taluq of Vilupuram have been started. Eye-sketches of villages in Cuddalore Taluq were also in progress by No. 1 Party. In Salem District detachments of No. 1 Party were employed in the survey of Zemindaris and excluded tracts belonging to five taluqs, viz., Krishnagiri, Tirupatúr, Oosoor, Uttenkarai, Dhárápuri, and of waste land blocks on the Shervaroys. The topographical survey of the excluded tracts of Oosoor, Tirupatúr, and Krishnagiri will shortly be completed. A portion of the district boundary adjoining North Arcot was surveyed and demarcated. In the Nilgiri District the survey on the 16-inch scale of puttas, coffee estates, and waste land blocks, and the topographical survey of Government waste land on a scale of 2 inches to a mile were in progress under the Deputy Superintendent of No. 1 Party. Full details of the outturn and expenditure will be found in the Appendix. The Cadastral Survey or that of properties whether held under putta or acquired under waste land rules will probably be completed in July 1878. The Revenue Survey of the Coimbatore District carried on by No. 1 Party has been completed in all taluqs except Collegal, where it is now in progress. The field work in this taluq will, it is expected, terminate at the end of 1879. There is a large area in the north of this district which has been excluded from Revenue Survey, and which will have to be topographically surveyed. A considerable length of the district boundary was demarcated and surveyed during the year, viz., between Coimbatore and Malabar for 29 miles; Coimbatore and Travancore, 19 miles; Coimbatore and Mysore, 27·61 miles; Coimbatore and Nílgiri, 10½ miles. The survey of the Madura District was continued during the year by No. 4 Party in the Government taluqs of Periyakulam, Pulney, and Dindigul and the Zemindaris of Shivaganga and Ootapanaikanur. No taluq has yet been completed in this district. Periyakulam is the most advanced, and in that taluq 320 out of 340 square miles of fields have been measured. In Tinnevelly the only work in progress was the revision of the maps of villages under the Srivaikuntham Anicut, where the details have been much

altered since the original survey, and the demarcation and survey of 19 lineal miles of the Tinnevelly-Travancore boundary.

Work in progress in the Central Office.

In the Central Office the publication of village and estate maps on the scale of 16 inches to a mile as well as agraharams on the 4-inch scale was proceeded with, and the progress was equal to the average of former years. In addition a very large amount of mapping and printing of a miscellaneous character was executed. The details are shown in Appendix V.

It should be noted that besides the work therein entered 545·75 square miles of village maps were published and 21,344 copies colored out of office-hours under the special sanction of Government conveyed in G.O., No. 2,221, dated 30th December 1876.

Summary of distribution and changes proposed.

Summarising the distribution of the several Survey Parties as incidentally noticed above, it results that No. 1 Party had detachments in the Salem, Coimbatore, Nilgiri, South Arcot and Malabar Districts, No. 2 was employed in Kurnool, Cuddapah, and Bellary; No. 3 in Cuddapah and North Arcot; No. 4 in Madura and Tinnevelly; No. 5 in Ganjam, Gódávari, North Arcot, and South Arcot. No. 1 Party was throughout the year in charge of Lieutenant-Colonel Cloete, No. 2 was directed by Mr. H. O. C. Cardozo, No. 3 Party was in charge of Mr. F. C. Puckle till 11th May 1877. Mr. J. J. Tomlinson took temporary charge until he was relieved by Major Clay in July 1877. Mr. H. Gompertz was at the head of No. 4 Party except during February and March, when he was relieved by Captain Freeth. Mr. W. Beaumont assumed charge of No. 5 Party from Major Clay on the 12th July, and retained the direction during the remainder of the year. The work in the Central Office was carried on under the direction of Major C. C. Sargeaunt. Several causes have combined to produce this considerable dispersion of the Surveyors which is certainly unfavorable to economical administration. Demands for special surveys of railway stations, forest and fuel reserves, and of Government land for sale under waste land rules have been made. The standing orders of Government require the Department to take up the topographical survey of tracts excluded from revenue survey in the several districts; thus detachments have to be maintained in these districts long after the revenue survey has ceased, and at the same time fresh districts have to be taken up for the large scale survey, in order that the Settlement Department may be kept fully supplied with maps and area lists required for their operations. The Surveyor-General presses for material for the completion of the revised sheets of the Atlas of India, and small portions of unsurveyed country fall into some sheets otherwise fully surveyed; this has led to the deputation of Surveyors to complete surveys up to the sheet lines. It is in contemplation to carry out the concentration of the Field Parties as far as practicable. The completion of the Revenue Survey of the Ganjam District in July 1878 will afford a favorable opportunity for the withdrawal of the detachment to the south, leaving the topographical survey to be taken up at a future date. It has already been mentioned that arrangements have been made for closing the topographical survey in the Gódávari District; the field parties will probably be withdrawn from Kurnool and Cuddapah in 1878-79, and it is hoped from Salem District also; thus the list of districts under survey will be reduced by five.

Tests of accuracy.

The traverse work of the revenue survey was during the year connected with 73 stations of the trigonometrical survey and the comparison of distances which has been made shows a mean error in traversing of 8·29 feet per mile. Ten per cent. of the area of fields computed in the offices of Survey Parties have been computed in the Central Office as usual; the result shows that there has been no falling off in accuracy.

Boundary Act.

The provisions of the Boundary Act have been applied by the officers of the Department with discretion and good judgment; fines were inflicted in only six cases for obstruction or non-attendance.

Inspection.

Nos. 1, 3, 4, and 5 Parties were inspected by the Superintendent during the year. A necessarily-protracted visit to the province of Coorg, where the survey under the orders of the Government of India was drawing to a close, prevented the examination of the office work of No. 2 Party. In all the offices the business of the Department was being satisfactorily and regularly carried on according to the rules in force.

General measures proposed or undertaken.

The chief measures for the general improvement of the work of the Department which have been considered during the year are (1) the introduction of a system of accounts and record of progress which will enable the cost of the work performed by different parties, and by the department as a whole, to be ascertained concurrently with its execution instead of as formerly only on the completion of taluqs, and several years after its commencement; (2) the adoption of a standard size of sheet for plotting village plans and the drawing of the detail in a manner suited for reproduction by photo-lithography; (3) the publication of all plans of villages with large enclosures by reduction by the process of photo-lithography on a scale of 8 inches to a mile instead of by hand-tracing and transfer on a scale of 16 inches to a mile; (4) the drawing of estate plans for reduction by photography and their reproduction by photo-lithography; (5) the establishment of a computing branch in the Central Office for the purpose of bringing the main circuit traverses of the Revenue Survey and the minor triangulation executed by this Department into connection and accordance with the great trigonometrical survey; (6) the training of subordinates in trigonometrical surveying with a view to the execution of topographical surveys from minor triangulation properly based on the great trigonometrical distances; (7) the introduction of contract or piece-work payment for the processes of survey work which are subjected to independent check.

As regards the first the forms of account and the rules have been printed; they are in use in one Party, and the subordinates of the other Parties are under instruction. The second has been introduced; the third has been proposed to, and is under consideration by, Government; the fourth is experimentally in operation; full directions for the fifth have been drawn up, and will shortly be carried out; arrangements for the sixth are in progress, and the reports of the Deputy Superintendents regarding the seventh proposal are under consideration. The results of these measures will probably be noticed in future Annual Reports. It was in No. 5 Party that the new system of work accounts was first introduced as an experiment. The instruction of subordinates in the use of new forms requires a considerable amount of attention and care, and it is owing to the zealous co-operation of the Deputy Superintendent, Mr. W. Beaumont, that any difficulties met with were overcome. The same may be said of Major Sargeaunt, who has aided me in the work of revision and has carried out the necessary arrangements in the Central Office with marked success.

Since approved and sanctioned (G.O., No. 876, of 10th June 1878).

Description of Appendices.

The following Appendices are attached to this report:—

I.—Index map showing the progress of surveys in the Presidency of Madras to the 31st March 1878.

II.—Comparative statement showing the outturn of work under various heads during the years 1875-76, 1876-77, and 1877-78 respectively.

III.—Abstract statement of the outturn and expenditure of the several Survey Parties under various heads of demarcation and survey for the year 1877-78.

IV.—Detail statement showing the districts of the Madras Presidency under survey during the year 1877-78, the amount of work under various heads of demarcation and survey completed in each district during the year, and the total completed up to the end of the year, also the expenditure during and up to the end of the year.

V.—Abstract statement showing the outturn of work in the Central Office of the Madras Survey Department under various heads, the cost, and the resulting rates for the year 1877-78.

VI.—Statement showing the area of each district of the Madras Presidency, the areas in each district surveyed for revenue purposes or topographically surveyed, and the areas remaining to be surveyed on the 1st April 1878.

VII.—Comparative statement showing the distances between stations ascertained by the trigonometrical and revenue surveys, and the deduced error per mile of the revenue survey for the year 1877-78.

VIII.—Statement (Form E—Fiscal) showing the particulars of survey for the year 1877-78.

REVENUE SURVEY OFFICE,
CAMP KÓTAGIRI,
10*th July* 1878.

A. DEC. SCOTT, Lieut.-Colonel, R.E.,
Superintendent, Revenue Survey.

No. II.—*Comparative Statement of Outturn and Expenditure of* 1875-76, 1876-77, *and* 1877-78.

Nature of Work.	1875-76.	1876-77.	1877-78.
1	2	3	4
Revenue Survey.	SQ. MS.	SQ. MS.	SQ. MS.
Boundary demarcated	2184·98	3198·07	2766·43
Fields demarcated	811·99	966·75	576·91
Boundary surveyed	4970·20	4853·32	4414·36
Fields surveyed	1667·94	1636·71	946·34
	NO.	NO.	NO.
Number of minor circuits traversed	19,290	12,167	5,173
	SQ. MS.	SQ. MS.	SQ. MS.
Fields plotted	1586·43	1347·09	1228·49
Area detailed	2658·24	1291·15	1418·00
Area ready for settlement	3800·61	1914·84	1822·54
Maps sent to Central Office	4523·38	2521·08	2043·57
Topographical Survey.	SQ. MS.	SQ. MS.	SQ. MS.
Surveyed 4-inch scale	302·24	116·83	75·31
Do. 2-inch ,,	2176·74	1967·90	3191·80
Publication.			
Published 16-inch ,,	3420·00	3545·56	3604·72
Do. smaller scales	..	..	23942·00
	NO.	NO.	NO.
Maps, printed copies	104,245	148,367	144,903
	RS.	RS.	RS.
Total expenditure	7,18,433	7,00,157	6,28,800*

* Exclusive of outlay on establishment employed on famine-relief duties.

No. III.—*Abstract of Outturn and Expenditure of the several Survey Parties under various Heads during* 1877-78.

—	Revenue Survey 16 Inches to a Mile.										Topographical Survey.			Total Expenditure on Demarcation and Survey, all scales, in 1877-78.	
	Boundary demarcated.	Fields demarcated.	Boundary surveyed.	Fields surveyed.	No. of Minor Circuits traversed.	Fields plotted.	Detailed.	Area ready for Settlement.	Maps sent to Central Office.	Total Expenditure on Demarcation and Survey, 16 Inch Scale, 1877-78.	Four Inch.	Two Inch.	Expenditure for Topographical Surveys, 1877-78.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	RS. A. P.	SQ. MS.	SQ. MS.	RS. A. P.	RS. A. P.	
No. I Party ...	1519·97	90·62	1548·53	86·36	256	88·82	124·98	103·40	9·77	1,09,784 2 1	...	1043·06	42,734 6 1	1,52,518 8 2	
„ II do. ...	219·00	42·00	352·00	101·00	1,057	240·00	193·00	192·00	75·00	81,711 2 11	12·00	1119·00*	8,822 0 0	90,533 2 11	*$\frac{1}{2}$-inch scale.
„ III do. ...	...	...	675·03	216·91	456	172·47	297·27	537·33	192·16	73,967 1 1	27·81	...	2,626 11 1	76,593 12 2	
„ IV do. ...	193·46	249·29	105·80	234·07	285	234·20	119·75	168·81	238·14	70,851 8 3	...	52·63	5,135 7 11	75,987 0 2	Of this 257 square miles are on 1-inch scale.
„ V do. ...	834·00	195·00	1733·00	308·00	3,119	493·00	683·00	816·00	1528·50	1,49,907 3 7	35·50	977·11	7,788 4 5	1,57,695 8 0	
Total ...	2766·43	576·91	4414·36	946·34	5,173	1228·49	1418·00	1822·54	2043·57	4,86,221 1 11	75·31	3191·80	67,106 13 6	5,53,327 15 5	

No. IV.—*Statement showing the Districts of the Madras Presidency under Survey during* 1877-78, *the Amount of Work completed under various Heads, and the Expenditure, together with the Rate of Cost per Square Mile for Completed Tatuqs.*

District.	Demarcation.			Revenue Survey.							
	Boundary.	Field.	Total Expenditure during the Year.	Boundary.	Field.	No. of Minor Circuits traversed.	Field Plotting.	Details inserted.	Area ready for Settlement.	Maps sent to Central Office.	Total Expenditure during the Year.
1	2	3	4	5	6	7	8	9	10	11	12
	SQ. MS.	SQ. MS.	RS. A. P.	SQ. MS.	SQ. MS.	NOS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	RS. A. P.
Coimbatore	595·15	21·13	7,049 14 7	547·33	18·94	163	35·75	57·08	75·25		22,329 15 3
	2772·39	1665·66	2,00,955 2 6	5779·34	4523·86	23,397	4515·60	4531·24	4852·65	4777·40	9,02,502 5 9
Salem	618·59	0·54	522 2 9	751·92	0·03	21	...	...	...	...	6,741 14 0
	3519·53	0·54	522 2 9	7578·01	3068·06	5,109	3068·03	3577·65	3577·85	3577·65	4,34,740 12 3
Nilgiri	306·23	68·61	15,370 6 11	249·28	67·05	72	51·28	65·76	26·01	7·13	53,120 11 7
	968·84	390·92	1,16,445 14 5	1200·96	334·63	1,441	280·39	261·07	214·48	197·58	3,42,995 9 8
Wynád (Malabar)	...	0·34	455 9 7	...	0·34	...	1·79	2·14	2·14	2·59	4,243 7 5
	199·36	28·05	44,621 11 8	199·36	28·05	100	28·05	8·67	8·67	8·67	98,254 11 6
Kurnool	...	...	...	...	...	...	...	...	...	...	
	...	...	...	1840·00	4088·00	...	4088·00	4840·00	4840·00	4840·00	8,21,205 0 0
Bellary	219·00	42·00	7,244 9 0	...	2·00	53	52·00	51·00	65·00	75·00	10,993 0 0
	1259·00	858·00	75,456 [illegible]	1085·00	765·00	4,018	728·00	737·00	773·00	867·00	1,32,155 [illegible]
Guddapah	...	...	...	219·00	99·00	999	330·47	399·27	669·33	192·16	1,01,502 6 10
	...	...	...	3643·09	3505·78	34,724	3317·12	3723·51	3780·37	4087·71	10,52,949 15 4
Madura	193·46	249·29	22,768 15 10	105·80	234·07	285	234·20	119·75	168·81	238·14	48,082 8 5
	1905·22	1472·38	1,59,292 0 2	1621·10	1322·61	3,150	723·13	389·84	476·32	238·14	2,09,225 3 7
North Arcot	1·00	21·00	531 7 11	1724·03	388·91	1,900	421·00	622·00	730·06	1219·50	1,08,857 13 10
	3811·28	1516·00	1,17,019 5 8	6376·81	2092·91	13,798	1814·00	2124·00	2773·09	4875·78	4,11,235 13 8
Ganjam	264·00	59·00	17,695 12 5	282·00	61·00	1,592	62·00	51·00	86·00	309·00	35,897 7 7
	1740·35	774·00	2,01,301 9 0	1711·35	744·00	14,871	684·00	885·35	906·00	1392·36	4,08,191 0 5
South Arcot	203·00	115·00	11,459 4 11	51·00	75·00	83	...	...	...	...	4,841 8 6
	203·00	115·00	11,459 4 11	51·00	75·00	83	...	...	...	...	4,541 8 6
Gódávari	366·00	...	...	351·00	...	...	...	...	...	...	...
	805·00	...	...	750·00	...	...	...	...	...	...	...
Total up to 31st March 1878 ...	17183·97	6820·55	9,03,072 13 2	39565·72	20957·90	100,688	19246·62	21078·33	52196·14	26672·28	47,94,197 6 2

The figures in antique show outturn and expenditure during 1877-78.
The plain figures show total outturn and expenditure up to 31st March 1878.

Statement showing the Districts of the Madras Presidency under Survey during 1877-78, the Amount of Work completed under various Heads, and the Expenditure together with the Rate of Cost per Square Mile for Completed Taluqs—continued.

District.	Topographical Survey. Four-inch.	Topographical Survey. Two-inch.	Topographical Survey. Total Expenditure during the Year.	Total Expenditure on Survey.	Total Expenditure on Demarcation and Survey.	Share of Central Office.	Cost per Square Mile on completed Taluqs.	Remarks.
	13	14	15	16	17	18	19	20
	SQ. MS.	SQ. MS.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	
Coimbatore	...	3·37	5,362 2 3	27,632 1 6	34,742 0 1	3,119 15 0	...	
	308·58	482·01	33,396 12 0	9,35,939 1 9	11,42,354 4 3	66,339 14 2	290 3 8	
Salem	...	733·25	38,194 13 0	39,936 11 1	40,458 13 9	3,638 5 6	...	
	460·53	2,342·12	1,56,134 14 9	5,90,875 11 0	5,91,397 13 9	43,571 8 6	56 9 1*	* Topographical Survey.
Nilgiri		275·59	9,960 1 4	56,080 12 11	71,451 9 10	6,416 8 4		
	112·03	498·77	13,205 10 1	3,56,201 3 9	4,72,647 2 2	13,606 9 2	2,341 11 7	
Wynád (Malabar)	...	28·85	1,217 5 8	5,460 12 11	5,866 6 6	526 12 7	...	
	...	28·82	17,281 10 11	[illegible] 6 5	1,60,158 2 1	4,325 4 7	...	
Kurnool	...	1119·00	8,740 0 0	8,740 0 0	8,740 0 0	784 14 0	...	
	229·00	2251·00	32,527 10 9	3,61,142 10 9	3,61,142 10 9	1,099 6 8	...	
Bellary	...	...		10,951 0 0	17,495 0 0	1,571 3 4	...	
	59·00	...	953 0 0	1,23,138 5 6	1,98,593 15 7	19,056 11 2	...	
Cuddapah	39·81	...	2,456 6 3	1,04,000 13 1	104,000 13 1	9,339 9 11	...	
	400·57	2217·84	55,054 4 0	11,07,934 3 4	11,07,934 3 4	82,755 9 7	...	
Madura	...	52·63	5,135 7 11	53,218 0 4	75,987 0 2	6,823 13 11	...	Inclusive of Rupees 4,155-14-11 cost of demarcation and survey of about 65 miles of district and taluq boundary, of topographical survey on the Pulney Hills, and of the minor triangulation of a large part of the Hills.
	52·86	52·63	16,221 4 11	2,16,446 8 6	3,45,738 8 8	33,407 7 11	...	
North Arcot	30·50	581·00	4,677 0 11	108,534 14 9	109,086 6 8	9,794 7 8	...	
	961·78	1877·00	39,212 10 7	4,50,448 8 3	5,67,467 13 11	81,983 11 7	235 4 2	
Ganjam	5·00	389·00	3,321 8 4	39,218 15 11	56,914 12 4	5,111 2 4	...	
	298·00	389·00	34,030 13 6	4,37,221 13 11	6,38,523 6 11	34,670 10 5	624 0 1	
South Arcot	...	...	...	4,841 8 6	16,300 13 5	1,463 14 1	...	
	...	...	...	4,841 8 6	16,300 13 5	1,463 14 1	...	
Gódávari	...	7·11	...	12,304 9 7	12,304 9 7	1,105 0 4	...	
	...	71·11	...	28,345 13 9	28,345 13 9	3,641 15 2	49 5 11	
Total up to 31st March 1878 ...	2903·35	10190·33	4,05,588 11 6	52,28,131 15 5	61,31,904 12 7	3,85,952 11 0	...	

The figures in antique show outturn and expenditure during 1877-78.
The plain figures show total outturn and expenditure up to 31st March 1878.

No. V.—*Abstract Statement showing Outturn of Work in the Central Office under various Heads, Cost, and resulting Rates.*

Official Year.	A Publication Villages, Sixteen inch Scale. Outturn.	A ... Cost.	A ... Rate per Square Mile.	A Publication Villages, Four inch Scale. Out-turn.	A ... Cost.	A ... Rate per Square Mile.	B Publication Taluq and District Maps, one and half inch Scale. Out-turn.	B ... Cost.	B ... Rate per Paper Square of 100 Square Inches.	C Publication Estate Maps. Out-turn.	C ... Cost.	C ... Rate per Square Mile.
1	2	3	4	5	6	7	8	9	10	11	12	13
	SQ. MS.	RS. A. P.	R. A. P.	SQ. MS.	RS. A. P.	RS. A. P.	Paper Square of 100 Square Inches	RS. A. P.	RS. A. P.	SQ. MS.	RS. A. P.	RS. A. P.
1877-78 ...	3584·22	15,158 5 0	4 3 8	167·50	293 2 0	1 12 0	22·51	4,221 12 0	187 8 9	20·50	1,664 0 0	81 2 9

Official Year.	D Publication, Miscellaneous Maps. Out-turn.	D ... Cost.	D ... Rate per Paper Square of 100 Square Inches.	Total Cost.	Maps Lithographed. No. of Copies.	Maps Lithographed. No. of Pulls.	Maps supplied for Government Purposes. No. of Copies.	Maps supplied ... Value of Issues.	Maps sold to Private Individuals. No. of Copies.	Maps sold ... Value of Issues.	Total Value of Issues.
	14	15	16	17	18	19	20	21	22	23	24
	Paper Square of 100 Square Inches	RS. A. P.	RS. A. P.	RS. A. P.				RS. A. P.		RS. A. P.	RS. A. P.
1877-78 ...	215·23	15,070 0 0	70 0 3	36,407 3 0	144,908	680,407	66,884	34,181 2 0	338	628 5 0	34,809 7 0

The amount of general charges to be apportioned to the outlay in Column 17 is Rupees 9,134-7-1, equivalent to nearly 25 per cent. which is additive to the rates.

A includes tracing for lithography, transferring and printing 44 copies in color, correction and examination, sorting, packing, &c.

B includes compiling from larger scale maps, enlargement, photographing, transferring, printing, and coloring District 150 copies, Taluq 120 copies.

C includes as for village maps, with marginal references, tables of areas, &c., for each estate, averaging say 20 estates to one square mile.

D includes as for Taluq and District Maps.

No. VI.—*Statement showing the Extent surveyed and remaining to be surveyed in each of the undermentioned Districts on the 31st March 1878.*

Districts. Names.	Area in Square Miles.	Surveyed in Square Miles. Revenue.	Topographical.	Total.	Remaining to be Surveyed in Square Miles. Revenue.	Topographical.	Total.
1	2	3	4	5	6	7	8
Ganjam	8,313	1,512	3,302*	4,814	74	3,425	3,499
Vizagapatam	17,380	..	10,400†	10,400	..	6,980	6,980
Gódávari	7,345	2,830	2,703‡	5,583	..	1,762	1,762
Kistna	8,471	5,454	1,126	6,580	..	1,891	1,891
Kurnool	7,788	4,427	2,597	7,024	..	764	764
Bellary	11,007	1,044	62	1,106	6,604	3,297	9,901
Cuddapah	9,450	6,609	2,815	8,824	151	475	626
Nellore	8,739	4,232	4,507	8,739	..	..	..
Chingleput	2,842	2,096	746	2,842	..	..	..
Madras	27	27	..	27	..	..	..
North Arcot	7,139	2,843	3,417	6,260	155	724	879
South Arcot	4,873	565	..	565	2,942	1,359	4,308
Salem	7,586	3,656	3,923	7,579	..	7	7
Coimbatore	7,432	4,951	948	5,899	166	1,367	1,533
Nilgiri	978	338	573	911	56	11	67
Malabar	5,763	29	141	170	70	5,523	5,593
South Canara	3,902	..	..	..	..	3,902	3,902
Trichinopoly	3,561	2,741	820	3,561	..	..	..
Tanjore	3,654	..	..	..	..	3,654	3,654
Madura	9,502	1,481	203	1,684	566	7,252	7,818
Tinnevelly	5,381	3,080	1,719	4,799	..	582	582
Total ..	141,133	47,360	40,007	87,367	10,791	42,975	53,766

* Includes 2,500 square miles recently topographically surveyed by the Bengal Survey.
† Includes 10,400 do. do. do.
‡ Includes 1,411 do. do. do.

No. VII.—*Statement of Comparative Distances between Great Trigonometrical Stations.*

Districts.	Stations.	Distances in Feet. By Trigonometrical Survey.	By Revenue Survey.	Differences.	Error per Mile.
1	2	3	4	5	6
Coimbatore ...	Dhárápuram to Mottoccoyil	59,973	60,031	+ 58	+ 5·11
	Do. to Chengarree	123,465	123,143	– 322	– 13·77
	Do. to Codoormalli	53,166	53,072	– 94	– 9·34
	Do. to Reangamalli	144,269	143,800	– 469	– 17·16
	Kollapaliara to Parianalai	93,139	92,844	– 295	– 16·72
	Do. to Chakkilichi	89,359	89,124	– 235	– 13·89
	Do. to Codoormalai	99,322	99,041	– 281	– 14·94
	Do. to Chengarree	65,926	65,868	– 58	– 4·65
	Yaelamatoor to Yettimalai	60,250	60,086	– 164	– 14·37
	Do. to Paramutty	102,844	102,664	– 180	– 9·24
	Paramutty to Yettimalai	42,747	42,670	– 77	– 9·51
	Woorachimalai to Paulamalai	79,876	79,663	– 213	– 14·08
	Jail House to Roman Catholic Church	5,935	5,917	– 18	– 15·01
Nilgiri ...	Ulnad to Kulkudi	10,681	10,667	– 14	– 6·92
	Do. to Muttunad	24,985	24,962	– 23	– 4·86
	Do. to Devishola	33,380	33,351	– 29	– 4·59
	Do. to Erremaybetta	27,630	27,625	– 5	– 0·96
	Do. to Keenjada	28,010	28,003	– 7	– 1·32
	Do. to Kuttikadu	9,768	9,762	– 6	– 3·24
	Do. to Chinna Doddabetta	23,417	23,389	– 28	– 6·31
	Do. to Elk Hill	24,948	24,923	– 25	– 5·29
	Do. to Club Hill	22,361	22,325	– 36	– 8·05
	Do. to Doddabetta	34,378	34,336	– 42	– 6·45
	Do. to Cairn Hill	14,166	14,155	– 11	– 4·10
	Do. to Snowdon	31,691	31,638	– 53	– 8·83
	Doddabetta to Muttunad	29,246	29,211	– 35	– 6·32
	Snowdon to do.	17,699	17,678	– 21	– 6·26
	Club Hill to do.	14,457	14,456	– 1	– 0·36
	Erremaybetta to Devishola	31,986	32,010	+ 24	+ 3·96
Salem ...	Kishtnaghiri to Rayacottah	64,039	63,973	– 66	– 5·44
	Do. to Boditimarauz Droog	47,077	47,125	+ 48	+ 5·38
	Rayacottah to do.	44,858	44,740	– 118	– 13·89
	Do. to Balacondah Droog	45,094	44,997	– 97	– 11·36
Madura ...	Knnacor Hill to Perumalor Kudramalai	57,782	57,726	– 6	– 0·55
Cuddapah ...	Eshwaramalai to Pyepaud	123,443	123,377	– 66	– 2·82
	Do. to Kunnacondah	91,398	91,279	– 119	– 6·87
	Itticul Droog to do.	152,305	151,929	– 376	– 13·03
	Ingalur Hill to do.	122,800	122,849	+ 49	+ 2·11
	Do. to Pyepaud	111,618	111,806	+ 188	+ 8·89
	Pyepaud to Pollcondah	82,373	82,232	– 141	– 9·04
	Chintamakelapalli to Sattanawarapollam	115,938	115,719	– 219	– 9·97
	Do. to Goondalcondah	62,267	62,081	– 186	– 15·78
	Do. to Toomacondah	88,840	88,820	– 20	– 1·19
	Goondalcondah to do.	108,473	108,391	– 82	– 3·99
	Do. to Rajanamalli	117,045	117,017	– 28	– 1·26
	Sattanawarapollam to Goondalcondah	95,340	95,214	– 126	– 6·98
	Goondalcondah to Boodthaid	102,503	102,648	+ 145	+ 7·47
North Arcot ...	Tellaralpe.t to Maagalpet Droog	75,532	75,727	+ 195	+ 13·63
	Do. to Mel Eswar Hill	103,503	103,760	+ 257	+ 13·11
	Do. to Yerpett	84,932	85,173	+ 241	+ 14·98
	Yerpett to Paunt Droog	98,068	98,056	– 12	– 0·65
	Do. to Tripatty S. Pagoda	60,984	61,101	+ 117	+ 10·13
	Do. to Tripatty Railway Station	41,668	41,579	– 89	– 11·28
	Tripatty S. Pagoda to Paunt Droog	37,212	37,120	– 92	– 13·05
	Do. to Agarala or Chandragiri	46,762	46,676	– 86	– 9·71
	Do. to Tripatty Railway Station	31,412	31,290	– 122	– 20·50
	Agarala or Chandragiri to Ullaperi or Tripatty N. Pagoda.	44,903	44,819	– 84	– 9·88
	Do. to Paunt Droog	24,200	24,199	– 1	– 0·22
	Do. to Kupebendapetpett	42,681	42,813	+ 132	+ 16·34
	Do. to Kundrapakk	48,998	48,985	– 13	– 1·40
	Do. to Chintanur Goparam	56,586	56,503	– 83	– 7·74
	Do. to Mallaycoondah	7,009	7,021	+ 12	+ 9·02
	Do. to Nannapeta	34,234	34,178	– 56	– 8·64
	Paunt Droog to Nanalpeeta	37,016	36,977	– 39	– 5·56
	Do. to Mel Eswar Hill	88,931	88,823	– 108	– 6·41
	Do. to Kundrapakak	31,001	31,000	– 1	– 0·17
	Do. to Yae Avne Gerry Hill	43,259	43,222	– 37	– 4·05
	Do. to Chintanur Goparam	41,409	41,317	– 92	– 11·73
	Do. to Pilloor Hill	115,555	115,601	+ 46	+ 2·10
	Do. to Ullaperi or Tripatty N. Pagoda	39,820	39,729	– 91	– 12·07

No. VII.—*Statement of Comparative Distances between Great Trigonometrical Stations*—continued.

Districts.	Stations.	Distances in Feet.		Differences.		Error per Mile.	
		By Trigonometrical Survey.	By Revenue Survey.				
1	2	3	4	5		6	
North Arcot—continued.	Mangalpeir Droog to Mel Eawar Hill	28,168	28,206	+	38	+	7·12
	Do. Pagoda to do.	20,703	20,665	−	38	−	9·69
	Mel Eawar Hill to Chellapachey	51,469	51,431	−	38	−	3·90
	Mallanaigdroog to Chinna Droog	24,204	24,288	+	84	+	18·31
	Deercondah to Chinna Droog	42,317	42,382	+	65	+	8·11
	Do. to Kangundi Droog	18,672	18,659	−	13	−	3·67
	Do. to Goongoorkibirune	42,316	42,310	−	6	−	0·75
Ganjam	Mai to Mahendragiri	81,766	81,871	+	105	+	6·78
	Do. to Phaulsurn	94,728	94,864	+	136	+	7·58
	Mahendragiri to Phaulsurn	91,751	91,628	−	123	−	7·08
	Average error, Revenue Survey ...	...	...	...		+	8·90
						−	7·69

Number of stations connected with Revenue Survey, 73.

No. VIII.—*Fiscal Item No. 23 for* 1877-78 *showing the Particulars of Survey.*

Districts.	Area previously surveyed in Square Miles up to 31st March 1877.	Area Surveyed during the Year 1877-78, Square Miles.			Cost and Cost per Square Mile.									
					Topographical.			Revenue.						
		Topographical.	Revenue.		Cost.			Cost.			Cost per Square Mile.			
			By Villages.	By Fields.										
1	2	9	10	11	12			14			15			
					Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	
Canjam	35216	394·60	58·00	45·00	17,240	0	2	1,20,539	4	4	267	6	6	
Godâvari	688·00	71·11	...	...	2,625	12	6	...			...			
Kistna	1126·60	...	...	...	...			...			...			
Nellore	636·38	...	...	...	...			...			...			
Kurnool	1794·97	800·00	...	...	13,130	11	9	...			...			
Bellary	58·79	...	43·36	39·40	...			6,934	7	0	120	15	3	
Cuddapah	2709·62	36·81	295·39	168·00	1,155	18	4	70,294	11	10	299	0	3	
North Arcot	2260·67	526·18	69·10	51·07	9,371	9	6	89,253	13	2	148	3	4	
Chingleput	755·78	...	...	...	...			...			...			
Madras	...	...	...	...	...			...			...			
South Arcot	...	...	...	...	...			...			...			
Tinnevelly	820·10	747·25	...	...	46,012	6	11	...			...			
Salem ...	2200·89	5·00	62·42	62·68	671	4	11	18,737	9	8	216	3	4	
Coimbatore ...	460·03	...	119·85	78·21	...			15,783	3	11	135	0	11	
Madura ...	52·86	...	...	...	...			...			...			
Tinnevelly ...	1718·91	...	...	...	...			...			...			
Nilgiri ...	272·56	135·66	22·56	18·60	2,196	6	1	16	3	0	20,248	2	5	897	8	5
Malabar ...	...	...	214	214	...			...			2,668	2	11	1,246	13	0*

* Waste land blocks in the Wynad Taluq.

A. DEC. SCOTT, Lieut.-Col., R.E.,
Superintendent, Revenue Survey.

REVENUE SURVEY OFFICE, CAMP KÓTAGIRI,
10th July 1878.

With the foregoing letter the Superintendent, Revenue Survey, submits his report on the progress made by the department during 1877-78. In accordance with the Board's suggestion in reviewing the report of the previous year the matter has been condensed: the omission of details with which former reports were loaded is a great improvement.

2. The re-organisation of the department was carried out during the year. Five combined Survey and Demarcation parties were substituted for five and-a-half Survey parties and two and-a-half Demarcation parties; detachments were employed in thirteen districts as follows:—

No. 1 Party in Salem, Coimbatore, Nilgiri, South Arcot and Malabar Districts.
No. 2 do. in Kurnool, Cuddapah, and Bellary.
No. 3 do. in Cuddapah and North Arcot.
No. 4 do. in Madura and Tinnevelly.
No. 5 do. in Ganjam, Godavari, North Arcot, and South Arcot

The desirability of contracting the field of operations was noticed last year; Colonel Scott explains the reasons which have led to the employment of scattered parties, and states that it is in contemplation to carry out concentration as far as practicable; before another year has elapsed it is hoped that the number of districts under survey may be reduced by five by the completion of work in Ganjam, Godavari, Kurnool, Cuddapah, Salem; deducting the five specified there will remain seven districts, namely, North Arcot, South Arcot, Bellary, Madura, Coimbatore, Tinnevelly, and the Nilgiri besides the Wynad Taluk of Malabar.

3. The map attached to the report illustrates the progress made up to 31st March 1878. It will be seen that survey and mapping on the 16-inch scale has been carried out in the Government taluks of Ganjam, in Godavari and Kistna, with the exception of certain Zemindari tracts, Nellore, Madras, Kurnool, Cuddapah (except Kadiri and Madhanapalle), Chingleput, Salem, Coimbatore (except Collegal), Trichinopoly and Tinnevelly, and that portions of these districts have been surveyed topographically and mapped on scales 4, 2 and 1 inch to a mile; the cadastral survey was in progress in the marginally-noted portions of districts; topographical survey was in progress in parts of Godavari, Cuddapah, North Arcot, Salem, Coimbatore, the Nilgiri and Madura; the districts of Vizagapatam, Tanjore, South Canara, and Malabar below the ghauts have not yet been taken up; the Ganjam Maliahs, Jeypore, and Rekapalli, Bhadrachalam and Rumpah in Godavari have recently been topographically surveyed by the Bengal Survey on a scale of 1 inch to a mile. Thus survey operations have up to date been extended into eighteen districts of this Presidency with an aggregate area estimated at 111,197 square miles, of which 58,151 square miles will be surveyed and mapped on the 16-inch scale and 53,046 will be treated for preparation of topographical maps on smaller scales. At the end of the year under review 47,360 square miles had been surveyed for revenue purposes, leaving 10,791 to be dealt with; 29,607 square miles had been topographically surveyed and 23,439 square miles remained, exclusive of the districts of Vizagapatam, Tanjore, South Canara, and Malabar below the ghauts (about 29,936 square miles), the course to be pursued in regard to them not having been settled.

Bellary	Allur and Adoni Taluks.
Cuddapah ..	Kadiri and Madhanapalle.
North Arcot ...	Chittur and Chandragiri.
Coimbatore ...	Collegal.
Nilgiri	South-East Wynad and portions of the plateau.
Madura	Pulney, Dindigul and Periyakulam and Shivaganga Zemindari.
South Arcot ...	Tindivanam Taluk.

4. The outturn of the year under the various distinct processes of survey are compared with the results of the two previous years in paragraph 2. Under nearly every head both of field and office work relating to the Revenue Survey there has been a falling off owing to the withdrawal of a large number of the subordinates for employment on famine duty, averaging 4 superior officers and 232 subordinates of various grades; the outturn of topographical work shows an improvement, and the progress made with publication in the Central Office was quite up to the mark of former years; a large amount of extra work not shown in the returns was moreover executed out of office hours.

5. The total outlay during the year was Rupees 7,39,421; of this Rupees 88,379 represent the pay of the staff detached for famine duty and Rupees 22,242 the cost of estate surveys to be recovered from the proprietors; the cost of the establishment actually employed on survey work for Government was therefore only Rs. 6,28,800.

6. Attention has been devoted to the introduction of improved methods of working; the measures adopted are enumerated at the close of the report, one of the most important being the valuation of work on a system which will admit of the ascertainment of the cost of the several operations immediately on completion instead of after the lapse of a considerable time as hitherto, and a comparison being instituted between the results of different years in relation to the outlay. Considering the hindrances to work resulting from the famine the progress attained must be regdared as very satisfactory.

(A true Copy and Extract.)

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

No. 143. ORDER THEREON, 12th November 1878, No. 1,818.

Miscellaneous.

RECORDED.

2. The progress made is satisfactory considering the peculiar circumstances of the year.

3. His Grace the Governor in Council notices with satisfaction the several measures adopted during the year for the general improvement of the work of the Department. He hopes that the Superintendent will find it possible to concentrate the field of operations at an early date.

(True Extract.)

(Signed) L. A. CAMPBELL,
Under-Secretary to Government.

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

Exd. W. H. French.

818/10

Govt. of [1878] Madras.

REVENUE.

To

THE BOARD OF REVENUE,

&c., &c., &c.

Dated November 12th.

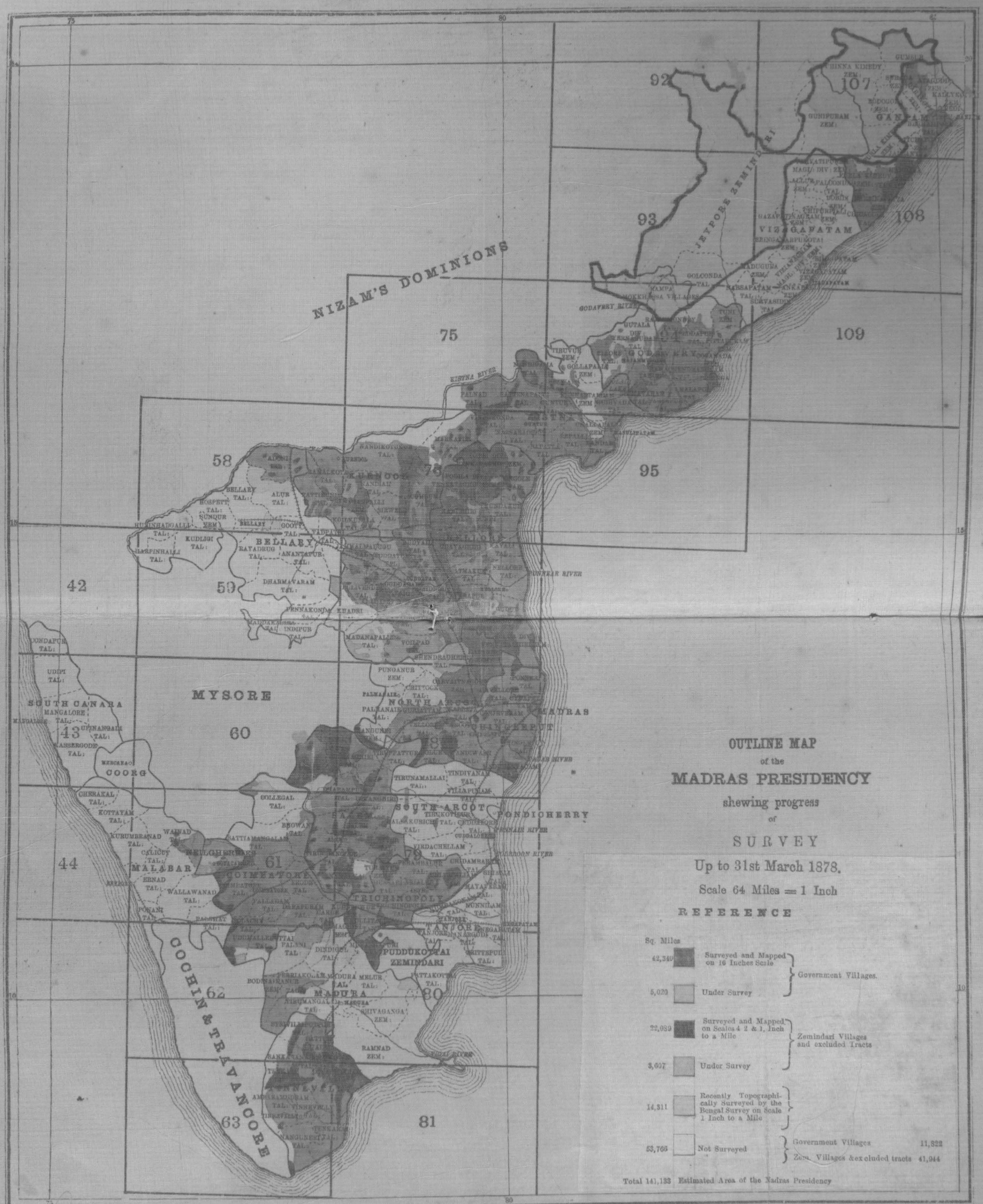
Printed 14th.

Read. *Encl.*

G.O., 12th November 1878, No. 1,818.

NOVEMBER.
Nos. 142-143.

Revenue Survey Department.—Recording Proceedings of the Board of Revenue reviewing report on the operations of the—during 1877-78; noticing with satisfaction the several measures adopted during the year for the general improvement of the work of the Department; and expressing a hope that the Superintendent will find it possible to concentrate the field of operations at an early date.



OUTLINE MAP
of the
MADRAS PRESIDENCY
shewing progress
of
SURVEY
Up to 31st March 1878.

Scale 64 Miles = 1 Inch

REFERENCE

Sq. Miles			
42,340	Surveyed and Mapped on 16 Inches Scale	Government Villages.	
5,020	Under Survey		
22,089	Surveyed and Mapped on Scales 4 2 & 1 Inch to a Mile	Zemindari Villages and excluded Tracts	
3,007	Under Survey		
14,311	Recently Topographically Surveyed by the Bengal Survey on Scale 1 Inch to a Mile		
53,766	Not Surveyed	Government Villages	11,822
		Zem. Villages & excluded tracts	41,944

Total 141,133 Estimated Area of the Madras Presidency

Photo—Lithographed in the Central Survey Office

Colored by S.R.A.

No. 2,672.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 30th September 1878.

Read the following letter from Lieutenant-Colonel A. DSC. SCOTT, R.E., Superintendent, Revenue Survey, to C. A. GALTON, Esq., Acting Secretary to the Board of Revenue, dated Kotagiri, 10th July 1878, No. 2,368-43 :—

I HAVE the honor to forward, for the information of the Board, my Annual Report on the operations of this department for 1877-78.

ENCLOSURE No. 1.

Total outlay of the year compared with estimate.

THE total outlay during the year on Surveys amounted to Rupees 7,39,420-11-9 as compared with an estimated outlay of Rupees 6,98,000 and an average outlay of the three preceding years of Rupees 7,24,500. There was thus an excess expenditure of Rupees 41,420-11-9. The outlay as given above includes an expenditure of Rupees 22,242-2-5 on the survey of Zemindaris, which will be repaid to the Government. A considerable portion of the Survey Establishment was engaged during the year on duties connected with famine relief; the total average strength during the year of the detachments transferred to the Revenue Officers for this purpose amounted to 4 superior officers and 282 subordinates of various grades, and the aggregate outlay on this account to Rupees 88,378-14-6. It was not until the latter portion of the year that it was finally decided to charge the cost of this establishment against the Survey Budget Grant, and the expenditure on survey work had in the meantime been regulated on the contrary supposition. It was to these circumstances that the excess outlay referred to was due.

Results of expenditure in outturn of work.

The general results of the expenditure are exhibited in the subjoined statement, which shows the area of the outturn of the year under the various distinct processes of survey and also compares it with the outturn of each of the two preceding years :—

Nature of Work.	Outturn of 1875-76.	Outturn of 1876-77.	Outturn of 1877-78.
	SQ. MS.	SQ. MS.	SQ. MS.
Revenue Survey.			
Boundary demarcated	2184·98	3198·07	2766·43
Fields demarcated	811·93	966·75	576·91
Boundary surveyed	4970·20	4853·32	4414·36
Fields surveyed	1667·94	1636·71	946·34
	NO.	NO.	NO.
Minor Circuits traversed	19,230	12,167	5,173
	SQ. MS.	SQ. MS.	SQ. MS.
Fields plotted	1586·43	1347·09	1228·49
Area detailed	2658·24	1291·15	1418·00
Area ready for Settlement Dept.	3800·61	1914·84	1822·54
Maps sent to Central Office ...	4523·38	2521·08	2043·57
Topographical Survey.			
Surveyed 4-inch scale	302·24	116·88	75·31
Do. 2-inch ,, ...	2176·74	1967·90	3191·80
Publication.			
Published 16-inch ,, ...	3420·00	3545·56	3604·72
Do. smaller scales	...	...	2394·20
	NO.	NO.	NO.
Maps, printed copies	104,245	148,367	144,903
	RS.	RS.	RS.
Total expenditure	7,18,433	7,00,157	*6,28,800

* Exclusive of outlay on establishment employed on famine duty.

The proportion of the outturn attributable to each Survey Party and belonging to each district in which operations were carried on is shown in detail in Appendices Nos. III and IV to this report.

Rates or cost of work per unit of area.

It is difficult to institute any exact comparison between the results of different years in relation to the expenditure where these are not reduced to a common standard for the several denominations of work. In point of fact it is necessary for this purpose that standard rates should be established for boundary demarcation, field demarcation, boundary survey, &c. A system of accounts framed to meet the end referred to has been introduced, but it has not been sufficiently long in operation to enable rates in general to be derived. They have, however, been obtained for the work of publication carried on in the Central Office, and are as follows :—

——	Unit.	Publication.	General Charges at 25 per Cent.	Total Cost.
		Rs. A. P.	Rs. A. P.	Rs. A. P.
Village Maps on the scale of 16 inches to a mile.	One sq. mile.	4 3 8	1 0 11	5 4 7
Village Maps (Agraharam) on a scale of 4 inches to a mile.	Do. ...	1 12 0	0 7 0	2 3 0
Coffee Estate and Waste Land Maps on a scale of 16 inches to a mile.	One acre ...	0 2 0·3	0 0 6	0 2 6·3
Taluq Maps on a scale of 1 inch to a mile...	One sq. mile.	1 14 0	0 7 6	2 5 6
District Maps on a scale of 1 inch to a mile.	Do.	0 8 0	0 2 0	0 10 0
Miscellaneous Maps	One sq. of 100 sq. inches of maps.	70 0 0	17 8 0	87 8 0

The cost of publication includes that of printing and coloring a standard number of copies, and the rate includes charges for storage, contingencies, and supervision. The accounts introduced in the Central Office have already been of practical use in indicating directions in which economies could be effected. They form a basis for the establishment of contract work which is a system admirably suited for certain processes which are carried on. The rates of the current year form also points of departure from which the results of succeeding years' administration can be measured, but, as the cost of the work of previous years has not been satisfactorily ascertained, no retrospective comparison can be made. The general results of the work of the Field Parties will probably be considered satisfactory, due regard being had to the extremely unfavorable circumstances under which operations have been carried on in all the districts under survey. The outturn of the year 1877-78 is under most of the heads shown in the statement of results below the average of the two preceding years, but there is an increase in the area topographically surveyed of 985 square miles, and a decrease in the expenditure on surveys generally of Rupees 80,495. The progress both of demarcation and survey largely depends on the co-operation of the villagers, who supply field stones and labor for fixing them, clear chain lines, assist in the measurement of their fields, and afford shelter and supplies to the Surveyors. In many parts of the country the villages were depopulated by famine, and the prevailing scarcity so impoverished the ryots in others that they could not afford to pay for their field boundary stones. Everywhere there was the greatest difficulty in obtaining labor which was attracted to the centres of relief operations. A considerable portion of the budget grant was expended in the payment of the establishment employed on relief duties, and which gave no outturn of survey work during the year. Under the foregoing circumstances a falling off in progress was to be expected, and it was only the zealous exertions of the Deputy Superintendents and Officers employed with the Field Parties who were working under such exceptional difficulties which prevented a still greater reduction of outturn.

Measures of reorganisation.

In June 1877 a scheme for the reorganisation of the Department prepared by Colonel Hessey was finally approved of by the Government of India. It consisted in the introduction of a new scale of

salary for the officers, the reduction of their number from nineteen to sixteen, and the grant to them of travelling allowance at Bengal rates. A revised scale of establishment was adopted for the Central Office, half a Survey Party was abolished, and the original organisation of five-and-a-half Survey Parties and two-and-a-half Demarcation Parties was changed to five Combined Survey and Demarcation Parties. The scheme involved an aggregate expenditure of Rupees 7,27,593-8-0 per annum. In pursuance of the sanctioned arrangements, the half Party in Ganjam was converted into a detachment of No. 5 Party, and a considerable number of the least efficient subordinates who were in excess of the new scale of establishment were discharged. Other supernumeraries will be gradually absorbed. The total strength of the Department on the 1st April 1877 and 1st April 1878 is contrasted below :—

	1st April 1877.	1st April 1878.
Superintendent	1	1
Deputy Superintendents	5	5
Assistant do.	12	12
Sub-Assistants or Inspectors	22	17
Head Surveyors	63	64
Deputy and Detail Surveyors or Sub-Inspectors ...	285	268
Field Surveyors, Ameens or Field Gumastahs ...	609	496
Measurers	887	812
Office Managers	5	4
Computers	210	175
Draughtsmen	387	343
Clerks	49	58
Duffadars, Head Peons or Peons	436	355
Muchies, &c.	140	159
Hospital Assistants	7	7

Comparison of area in the Presidency surveyed and remaining to be surveyed.

2. Survey operations have up to the present date been extended into eighteen districts of the Madras Presidency with an aggregate area for survey estimated at 111,197 square miles, viz., Ganjam, Gódávari, Kistna, Kurnool, Bellary, Cuddapah, Nellore, Chingleput, Madras, North Arcot, South Arcot, Salem, Coimbatore, Nilgiri, Trichinopoly, Madura, Tinnevelly, Wynád Taluq, Malabar District. Of this area it is assumed that 58,151 square miles will be surveyed for revenue purposes, for a scale of map of 16 inches to a mile, and the remainder (53,046 square miles) with a view to the preparation of topographical maps on smaller scales. Up to the end of the year under review the Cadastral or Revenue Survey had been completed for a total of 47,360 square miles, and the topographical or small scale survey for an area of 29,607 square miles. Thus there remains out of the area referred to—for Revenue Survey 10,791 square miles, for topographical survey 28,439 square miles. The question of extending the Revenue Survey to the districts of Vizagapatam, Tanjore, South Canara, and Malabar below the ghauts has not yet been settled. The total area involved is about 29,936 square miles, of which a considerable portion is cultivated under ryotwari tenure ; but in the detailed statement of areas for survey, Appendix VI, the whole has been entered as for topographical survey only, raising the total to 42,975 square miles.

Distribution of Parties. Localities of Survey.

During the year 1877-78 Field Detachments were employed in thirteen districts of the Madras Presidency, viz., Ganjam, Gódávari, Kurnool, Bellary, Cuddapah, North Arcot, South Arcot, Coimbatore, Nilgiri, Salem, Malabar, Madura, and Tinnevelly. In Ganjam the demarcation and survey for revenue purposes of the more cultivated portions of the Goomsur Taluq were in progress, and will probably be completed in July 1878. The Revenue Survey for the Court of Wards of the Jaláutra Estate was brought to a close, and the topographical survey of the Zemindaris of Mandasa, Túrla, Bárwa, Aska, Tekkali, and Parla Kimedi was completed. Boundary demarcation and survey were in progress in the Zemindaris of Budarisingi, Chikati, Dhárakóta and Humma. The survey in this district was until October held as a separate charge by Mr. Merriman, Assistant Superintendent, and thereafter it was placed under the direction of the Deputy Superintendent of No. 5 Party, Mr. Merriman continuing in immediate control. The difficulties connected with the conduct of work in the district are exceptionally great, and this officer has labored zealously to overcome them. A detachment of Surveyors belonging to No. 5 Party under Civil Assistant Mr. Fraser has

been employed in the topographical survey of the portion of the Gódávari District included within the Coringa, Cocanáda, Pithápuram, and Tuni Divisions, and the Peddápuram Taluq. The unhealthiness of the tract and the isolated position of the party have militated against the progress of the work. It is proposed to complete the topographical survey of the three divisions first named containing 340 square miles and the boundary demarcation and survey of the remainder, and then to remove the detachment. The work as laid out will probably be completed in September 1878. In Kurnool a detachment of No. 2 Party was engaged during the year on the Nallamalai Hills. An area of 1,119 square miles was sketched by plane table on a scale of half an inch to a mile with a view to the completion of the sheet of the Atlas of India containing the tract in question. In Cuddapah detachments of two Survey Parties were engaged. Those of No. 2 in Kadiri and Madhanapalle, those of No. 3 Party in Madhanapalle and Váyalpád. The village maps of all those taluqs will probably be completed in 1878-79, and with them the whole district except a small portion of an excluded tract on the southern boundary. In Bellary District the survey of the taluqs of Adóni and Allúr were in progress during the year under the Deputy Superintendent of No. 2 Party. The first has been completed in every respect. Preliminary operations were commenced in Penukonda Taluq by No. 3 Party, and it is anticipated that by the commencement of 1879-80 two full parties will be concentrated for the survey of this large district. The Revenue Survey of North Arcot is drawing to a close, expenditure on the taluqs of Wandiwash and Gudíyátam surveyed by No. 5 Party has ceased, and the accounts show a cost per square mile for demarcation and survey in the first of Rupees 178-5-1, in the second of Rupees 106-9-1 per square mile. The boundary and field survey of Chandragiri and half Chittúr Taluqs have been completed by No. 5 Party, and the field survey of the last remaining taluq, Palmanair, undertaken by No. 3 Party is in progress. This Party has also completed the field survey of the half of Chittúr left by No. 5. The topographical survey of the Kárvátnagar Zemindari has been completed at a cost of Rupees 22-6-3 per square mile, and that of Kangundi Zemindari is in hand. The Revenue Survey of South Arcot has been fairly commenced by No. 5 Party, the Tindivanam Taluq being the first taken up. Demarcation and survey are in full progress and the preliminary operations for the survey of the adjoining taluq of Vilupuram have been started. Eye-sketches of villages in Cuddalore Taluq were also in progress by No. 1 Party. In Salem District detachments of No. 1 Party were employed in the survey of Zemindaris and excluded tracts belonging to five taluqs, viz., Krishnagiri, Tirupatúr, Oosoor, Uttenkarai, Dhárápuri, and of waste land blocks on the Shervaroys. The topographical survey of the excluded tracts of Oosoor, Tirupatúr, and Krishnagiri will shortly be completed. A portion of the district boundary adjoining North Arcot was surveyed and demarcated. In the Nilgiri District the survey on the 16-inch scale of puttas, coffee estates, and waste land blocks, and the topographical survey of Government waste land on a scale of 2 inches to a mile were in progress under the Deputy Superintendent of No. 1 Party. Full details of the outturn and expenditure will be found in the Appendix. The Cadastral Survey or that of properties whether held under putta or acquired under waste land rules will probably be completed in July 1878. The Revenue Survey of the Coimbatore District carried on by No. 1 Party has been completed in all taluqs except Collegal, where it is now in progress. The field work in this taluq will, it is expected, terminate at the end of 1879. There is a large area in the north of this district which has been excluded from Revenue Survey, and which will have to be topographically surveyed. A considerable length of the district boundary was demarcated and surveyed during the year, viz., between Coimbatore and Malabar for 29 miles; Coimbatore and Travancore, 19 miles; Coimbatore and Mysore, 27·61 miles; Coimbatore and Nílgiri, 10½ miles. The survey of the Madura District was continued during the year by No. 4 Party in the Government taluqs of Periyakulam, Pulney, and Dindigul and the Zemindaris of Shivaganga and Ootapanaickanur. No taluq has yet been completed in this district. Periyakulam is the most advanced, and in that taluq 320 out of 340 square miles of fields have been measured. In Tinnevelly the only work in progress was the revision of the maps of villages under the Srivaikuntham Anicut, where the details have been much

altered since the original survey, and the demarcation and survey of 19 local miles of the Tinnevelly-Travancore boundary.

Work in progress in the Central Office.

In the Central Office the publication of village and estate maps on the scale of 16 inches to a mile as well as agraharams on the 4-inch scale was proceeded with, and the progress was equal to the average of former years. In addition a very large amount of mapping and printing of a miscellaneous character was executed. The details are shown in Appendix V.

It should be noted that besides the work therein entered 545·75 square miles of village maps were published and 21,344 copies colored out of office-hours under the special sanction of Government conveyed in G.O., No. 2,221, dated 30th December 1876.

Summary of distribution and changes proposed.

Summarising the distribution of the several Survey Parties as incidentally noticed above, it results that No. 1 Party had detachments in the Salem, Coimbatore, Nilgiri, South Arcot and Malabar Districts, No. 2 was employed in Kurnool, Cuddapah, and Bellary; No. 3 in Cuddapah and North Arcot; No. 4 in Madura and Tinnevelly; No. 5 in Ganjam, Gódávari, North Arcot, and South Arcot. No. 1 Party was throughout the year in charge of Lieutenant-Colonel Cloete, No. 2 was directed by Mr. H. O. C. Cardozo, No. 3 Party was in charge of Mr. F. C. Puckle till 11th May 1877. Mr. J. J. Tomlinson took temporary charge until he was relieved by Major Clay in July 1877. Mr. H. Gompertz was at the head of No. 4 Party except during February and March, when he was relieved by Captain Freeth. Mr. W. Beaumont assumed charge of No. 5 Party from Major Clay on the 12th July, and retained the direction during the remainder of the year. The work in the Central Office was carried on under the direction of Major C. C. Sargeaunt. Several causes have combined to produce this considerable dispersion of the Surveyors which is certainly unfavorable to economical administration. Demands for special surveys of railway stations, forest and fuel reserves, and of Government land for sale under waste land rules have been made. The standing orders of Government require the Department to take up the topographical survey of tracts excluded from revenue survey in the several districts; thus detachments have to be maintained in these districts long after the revenue survey has ceased, and at the same time fresh districts have to be taken up for the large scale survey, in order that the Settlement Department may be kept fully supplied with maps and area lists required for their operations. The Surveyor-General presses for material for the completion of the revised sheets of the Atlas of India, and small portions of unsurveyed country fall into some sheets otherwise fully surveyed; this has led to the deputation of Surveyors to complete surveys up to the sheet lines. It is in contemplation to carry out the concentration of the Field Parties as far as practicable. The completion of the Revenue Survey of the Ganjam District in July 1878 will afford a favorable opportunity for the withdrawal of the detachment to the south, leaving the topographical survey to be taken up at a future date. It has already been mentioned that arrangements have been made for closing the topographical survey in the Gódávari District; the field parties will probably be withdrawn from Kurnool and Cuddapah in 1878-79, and it is hoped from Salem District also; thus the list of districts under survey will be reduced by five.

Tests of accuracy.

The traverse work of the revenue survey was during the year connected with 73 stations of the trigonometrical survey and the comparison of distances which has been made shows a mean error in traversing of 8·29 feet per mile. Ten per cent. of the area of fields computed in the offices of Survey Parties have been computed in the Central Office as usual; the result shows that there has been no falling off in accuracy.

Boundary Act.

The provisions of the Boundary Act have been applied by the officers of the Department with discretion and good judgment; fines were inflicted in only six cases for obstruction or non-attendance.

Inspection.

Nos. 1, 3, 4, and 5 Parties were inspected by the Superintendent during the year. A necessarily-protracted visit to the province of Coorg, where the survey under the orders of the Government of India was drawing to a close, prevented the examination of the office work of No. 2 Party. In all the offices the business of the Department was being satisfactorily and regularly carried on according to the rules in force.

General measures proposed or undertaken.

The chief measures for the general improvement of the work of the Department which have been considered during the year are (1) the introduction of a system of accounts and record of progress which will enable the cost of the work performed by different parties, and by the department as a whole, to be ascertained concurrently with its execution instead of as formerly only on the completion of taluqs, and several years after its commencement; (2) the adoption of a standard size of sheet for plotting village plans and the drawing of the detail in a manner suited for reproduction by photo-lithography; (3) the publication of all plans of villages with large enclosures by reduction by the process of photo-lithography on a scale of 8 inches to a mile instead of by hand-tracing and transfer on a scale of 16 inches to a mile; (4) the drawing of estate plans for reduction by photography and their reproduction by photo-lithography; (5) the establishment of a computing branch in the Central Office for the purpose of bringing the main circuit traverses of the Revenue Survey and the minor triangulation executed by this Department into connection and accordance with the great trigonometrical survey; (6) the training of subordinates in trigonometrical surveying with a view to the execution of topographical surveys from minor triangulation properly based on the great trigonometrical distances; (7) the introduction of contract or piece-work payment for the processes of survey work which are subjected to independent check.

As regards the first the forms of account and the rules have been printed; they are in use in one Party, and the subordinates of the other Parties are under instruction. The second has been introduced; the third has been proposed to, and is under consideration by, Government; the fourth is experimentally in operation; full directions for the fifth have been drawn up, and will shortly be carried out; arrangements for the sixth are in progress, and the reports of the Deputy Superintendents regarding the seventh proposal are under consideration. The results of these measures will probably be noticed in future Annual Reports. It was in No. 5 Party that the new system of work accounts was first introduced as an experiment. The instruction of subordinates in the use of new forms requires a considerable amount of attention and care, and it is owing to the zealous co-operation of the Deputy Superintendent, Mr. W. Beaumont, that any difficulties met with were overcome. The same may be said of Major Sargeaunt, who has aided me in the work of revision and has carried out the necessary arrangements in the Central Office with marked success.

Since approved and sanctioned (G.O., No. 876, of 10th June 1878).

Description of Appendices.

The following Appendices are attached to this report:—

I.—Index map showing the progress of surveys in the Presidency of Madras to the 31st March 1878.

II.—Comparative statement showing the outturn of work under various heads during the years 1875-76, 1876-77, and 1877-78 respectively.

III.—Abstract statement of the outturn and expenditure of the several Survey Parties under various heads of demarcation and survey for the year 1877-78.

IV.—Detail statement showing the districts of the Madras Presidency under survey during the year 1877-78, the amount of work under various heads of demarcation and survey completed in each district during the year, and the total completed up to the end of the year, also the expenditure during and up to the end of the year.

V.—Abstract statement showing the outturn of work in the Central Office of the Madras Survey Department under various heads, the cost, and the resulting rates for the year 1877-78.

VI.—Statement showing the area of each district of the Madras Presidency, the areas in each district surveyed for revenue purposes or topographically surveyed, and the areas remaining to be surveyed on the 1st April 1878.

VII.—Comparative statement showing the distances between stations ascertained by the trigonometrical and revenue surveys, and the deduced error per mile of the revenue survey for the year 1877-78.

VIII.—Statement (Form E—Fiscal) showing the particulars of survey for the year 1877-78.

REVENUE SURVEY OFFICE,
CAMP KÓTAGIRI,
10th July 1878.

A. DEC. SCOTT, Lieut.-Colonel, R.E.,
Superintendent, Revenue Survey.

No. II.—*Comparative Statement of Outturn and Expenditure of* 1875-76, 1876-77, *and* 1877-78.

Nature of Work.	1875-76.	1876-77.	1877-78.
1	2	3	4
Revenue Survey.	SQ. MS.	SQ. MS.	SQ. MS.
Boundary demarcated	2184·98	3198·07	2766·43
Fields demarcated	811·99	966·75	576·91
Boundary surveyed	4970·20	4853·32	4414·36
Fields surveyed	1667·94	1636·71	946·34
	NO.	NO.	NO.
Number of minor circuits traversed	19,290	12,167	5,173
	SQ. MS.	SQ. MS.	SQ. MS.
Fields plotted	1586·43	1347·09	1228·49
Area detailed	2658·24	1291·15	1418·00
Area ready for settlement	3800·61	1914·84	1822·54
Maps sent to Central Office	4523·38	2521·08	2043·57
Topographical Survey.	SQ. MS.	SQ. MS.	SQ. MS.
Surveyed 4-inch scale	302·24	116·83	75·31
Do. 2-inch ,,	2176·74	1967·90	3191·80
Publication.			
Published 16-inch ,,	3420·00	3545·56	3604·72
Do. smaller scales	..	..	23942·00
	NO.	NO.	NO.
Maps, printed copies	104,245	148,367	144,903
	RS.	RS.	RS.
Total expenditure	7,18,433	7,00,157	6,28,800*

* Exclusive of outlay on establishment employed on famine-relief duties.

No. III.—*Abstract of Outturn and Expenditure of the several Survey Parties under various Heads during* 1877-78.

	Revenue Survey 16 Inches to a Mile.										Topographical Survey.			Total Expenditure on Demarcation and Survey, all scales, in 1877-78.	
	Boundary demarcated.	Fields demarcated.	Boundary surveyed.	Fields surveyed.	No. of Minor Circuits traversed.	Fields plotted.	Detailed.	Area ready for Settlement.	Maps sent to Central Office.	Total Expenditure on Demarcation and Survey, 16 Inch Scale, 1877-78.	Four Inch.	Two Inch.	Expenditure for Topographical Surveys, 1877-78.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	RS. A. P.	SQ. MS.	SQ. MS.	RS. A. P.	RS. A. P.	
No. I Party ...	1519·97	90·62	1548·63	86·36	256	88·82	124·98	103·40	9·77	1,09,784 2 1	...	1043·06	42,734 6 1	1,52,518 8 2	
„ II do. ...	219·00	42·00	352·00	101·00	1,057	240·00	193·00	197·00	75·00	81,711 2 11	12·00	1119·00*	8,822 0 0	90,533 2 11	1-inch scale.
„ III do. ...	...	...	675·03	216·91	456	172·47	207·37	537·33	102·16	73,967 1 1	27·81	...	2,626 14 1	76,593 12 2	
„ IV do. ...	193·46	249·29	105·80	234·07	285	234·20	119·75	168·81	238·14	70,851 8 3	...	52·63	5,135 7 11	75,987 0 2	Of this 257 square miles are on 1-inch scale.
„ V do. ...	834·00	195·00	1733·00	308·00	3,119	493·00	683·00	816·00	1523·50	1,49,907 3 7	35·50	977·11	7,788 4 5	1,57,695 8 0	
Total ...	2766·43	576·91	4414·36	946·34	5,173	1228·49	1418·00	1822·54	2043·57	4,86,221 1 11	75·31	3191·80	67,106 13 6	5,53,327 15 5	

No. IV.—*Statement showing the Districts of the Madras Presidency under Survey during* 1877-78, *the Amount of Work completed under various Heads, and the Expenditure, together with the Rate of Cost per Square Mile for Completed Taluqs.*

District.	Demarcation.			Revenue Survey.								
	Boundary.	Field.	Total Expenditure during the Year.	Boundary.	Field.	No. of Minor Circuits traversed.	Field Plotting.	Details inserted.	Area ready for Settlement.	Maps sent to Central Office.	Total Expenditure during the Year.	
1	2	3	4	5	6	7	8	9	10	11	12	
	SQ. MS.	SQ. MS.	RS. A. P.	SQ. MS.	SQ. MS.	NOS.	SQ. MS.	SQ. MS.	SQ. MS.	SQ. MS.	RS. A. P.	
Coimbatore	595·15	21·13	7,049 14 7	547·33	18·94	163	35·75	57·06	75·25		22,329 15 3	
	2772·39	1665·66	2,06,955 2 6	5779·34	4523·86	23,397	4515·60	4531·24	4852·65	4777·40	9,02,502 5 9	
Salem	618·59	0·54	522 2 9	751·92	0·03	31	...	...	...	...	6,741 14 0	
	3519·53	0·54	522 2 9	7578·01	3068·06	5,109	3068·03	3577·65	3577·65	3577·65	4,34,740 12 3	
Nilgiri	306·23	68·61	15,370 6 11	249·28	67·05	72	51·28	65·76	26·01	7·13	53,120 11 7	
	968·84	390·92	1,16,445 14 5	900·66	334·63	1,411	280·39	261·07	214·48	197·58	3,42,995 9 8	
Wynád (Malabar)		0·34	455 3 7	...	0·34	...	1·79	2·14	2·14	2·59	4,213 7 5	
	199·36	28·05	44,621 11 8	199·36	28·05	100	28·05	8·67	8·67	8·67	98,254 11 6	
Kurnool	...	...	...	...	...	...	...	...	...	...	...	
	...	...	...	4840·00	4088·00	...	4088·00	4840·00	4840·00	4840·00	8,21,205 0 0	
Bellary	219·00	42·00	7,244 0 6	133·00	2·00	58	82·00	91·00	65·00	75·00	10,351 0 0	
	1259·00	858·00	75,455 10 1	1085·00	765·00	4,018	728·00	737·00	773·00	667·00	1,22,155 5 6	
Cuddapah	...	...	...	219·00	99·00	999	330·47	399·27	669·33	192·16	1,01,502 6 10	
	...	...	...	8649·09	3905·78	34,721	3317·12	3723·51	6780·37	6097·71	10,52,849 15 4	
Madura	193·46	249·29	22,768 15 10	105·80	234·07	285	234·20	119·75	168·81	238·14	48,082 8 5	
	1905·22	1472·38	1,29,292 0 2	1621·10	1332·61	3,150	723·43	389·84	470·32	238·14	2,00,225 3 7	
North Arcot	1·00	21·00	531 7 11	1724·03	388·91	1,900	431·00	632·00	730·00	1219·50	1,03,857 13 10	
	3811·28	1516·00	1,17,019 5 8	6376·81	2092·91	13,798	1814·00	2124·00	2773·00	4875·78	4,11,235 13 8	
Ganjam	264·00	58·00	17,695 12 5	282·00	61·00	1,592	62·00	51·00	86·00	309·00	35,897 7 7	
	1740·35	774·00	2,01,301 9 0	1711·35	744·00	14,871	684·00	885·55	906·00	1392·35	4,03,191 0 5	
South Arcot	203·00	115·00	11,459 4 11	51·00	75·00	83	...	...	...	...	4,841 8 6	
	203·00	115·00	11,459 4 11	51·00	75·00	83	...	...	...	...	4,841 8 6	
Gódávari	366·00	...	...	351·00	...	...	...	...	...	...	...	
	805·00	...	...	780·00	...	...	...	...	...	...	...	
Total up to 31st March 1878 ...	17183·97	6820·55	9,03,072 13 2	39565·72	20957·90	100,688	19246·62	21078·33	52196·14	26672·28	47,94,197 6 2	

The figures in antique show outturn and expenditure during 1877-78.
The plain figures show total outturn and expenditure up to 31st March 1878.

Statement showing the Districts of the Madras Presidency under Survey during 1877-78, the Amount of Work completed under various Heads, and the Expenditure, together with the Rate of Cost per Square Mile for Completed Taluqs.—continued.

District.	Topographical Survey.			Total Expenditure during the Year.	Total Expenditure on Demarcation and Survey	Share of Central Office.	Cost per Square Mile of completed Taluqs.	Remarks.
	Four-inch.	Two-inch.						
	13	14		15	16	17	18	19
	sq. ms.	sq. ms.		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Coimbatore	3·37	...		2,302 2 3	27,692 1 6	3,119 10 0	...	
	308·58	432·01		33,406 12 0	9,35,899 1 9	65,339 14 2	250 3 5	
Salem	...	73·25		38,194 13 6	39,336 11 0	2,832 5 6	...	
	462·53	2,342·13		1,56,134 14 9	6,90,575 11 0	63,771 5 6	66 9 1*	* Topographical Survey.
Nilgiri	...	...		2,903 1 4	68,080 19 11	6,416 8 4	...	
	112·66	67·77		13,205 10 1	3,66,301 3 9	42,617 2 2	2,331 11 7	
Wynád (Malabar)	...	28·85		1,217 5 6	5,480 12 11	526 12 7	...	
	...	28·85		17,281 10 11	1,15,536 6 5	4,835 4 7	...	
Kánara	...	1119·00		8,740 0 0	8,740 0 0	786 14 0	...	
	229·00	2251·00		39,937 10 9	8,61,142 10 9	1,089 2 8	...	
Bellary	...	...		983 0 0	10,251 0 0	1,571 3 4	...	
	59·00	...		2,493 6 8	1,23,136 5 6	19,058 11 3	...	
Cuddapah	...	...		2,493 6 8	1,04,500 13 1	9,389 6 11	...	
	89·81	221·84		66,084 4 0	11,07,934 3 4	85,755 0 7	...	
Madura	...	...		5,135 7 11	53,818 0 4	5,633 13 11	...	Estimate of Rupees 4,165-11-11 cost of demarcation and survey of about 75 miles of deserted and lateritic boundary, of approximately, on the Palney Hills, part of the main completion of alliance part of the Hills.
	52·63	52·63		16,221 4 11	2,16,446 8 6	3,45,738 8 8	83,407 7 11	
North Arcot	...	...		4,677 0 11	1,06,068 8 8	9,794 7 3	...	
	30·50	981·78		89,212 10 7	4,60,448 9 3	81,988 11 7	225 3 2	
Ganjam	...	...		3,231 8 4	33,218 15 11	5,111 2 4	...	
	4·00	398·00		34,030 13 6	4,37,221 13 11	34,677 10 5	624 0 1	
South Arcot	...	...		...	4,841 8 6	1,463 14 1	...	
	...	...		...	4,841 8 6	1,463 14 1	...	
Godávari	...	7·11		...	12,304 9 7	1,105 8 4	...	
	...	71·11		...	28,345 13 9	3,641 15 5	40 5 11	
Total up to 31st March 1878 ...	2002·35	10190·03		4,05,496 11 6	52,28,131 15 5	6,31,204 12 7	3,86,958 11 0	

The figures in antique show outturn and expenditure during 1877-78.
The plain figures show total outturn and expenditure up to 31st March 1878.

No. V.—*Abstract Statement showing Outturn of Work in the Central Office under various Heads, Cost, and resulting Rates.*

Official Year.	A Publication Villages, Sixteen inch Scale.			A Publication Villages, Four inch Scale.			B Publication Taluq and District Maps, one and half inch Scale.			C Publication Estate Maps.		
	Outturn.	Cost.	Rate per Square Mile.	Outturn.	Cost.	Rate per Square Mile.	Outturn.	Cost.	Rate per Paper Square of 100 Square Inches.	Outturn.	Cost.	Rate per Square Mile.
	1	2	3	4	5	6	7	8	9	10	11	12
		sq. ms.	Rs. A. P.	Rs. A. P.	sq. ms.	Rs. A. P.	Rs. A. P.	Paper Square of 100 Square Inches	Rs. A. P.	Rs. A. P.	sq. ms.	Rs. A. P.	Rs. A. P.
1877-78 ...	358·22	15,158 5 0	4 3 8	167·50	293 2 0	1 12 0	22·51	4,221 12 0	187 8 9	20·50	1,664 0 0	81 2 9

Official Year.	D Publication, Miscellaneous Maps.			Total Cost.	Maps Lithographed.		Maps supplied for Government Purposes.		Maps sold to Private Individuals.		Total Value of Issues.
	Outturn.	Cost.	Rate per Paper Square of 100 Square Inches.		No. of Copies.	No. of Pulls.	No. of Copies.	Value of Issues.	No. of Copies.	Value of Issues.	
	14	15	16	17	18	19	20	21	22	23	24
	Paper Square of 100 Square Inches	Rs. A. P.	Rs. A. P.	Rs. A. P.				Rs. A. P.		Rs. A. P.	Rs. A. P.
1877-78 ...	215·23	15,070 0 0	70 0 3	36,407 3 0	144,903	680,407	66,884	34,181 2 0	338	628 5 0	34,809 7 0

The amount of general charges to be apportioned to the outlay in Column 17 is Rupees 9,134-7-1, equivalent to nearly 25 per cent. which is additive to the rates.

A includes tracing for lithography, transferring and printing 45 copies in color, correction and examination, sorting, packing, &c.

B includes compiling from larger scale maps, enlargement, photographing, transferring, printing, and coloring District 150 copies, Taluq 120 copies.

C includes as for village maps, with marginal references, tables of areas, &c., for each estate, averaging say 20 estates to one square mile.

D includes as for Taluq and District Maps.

No. VI.—*Statement showing the Extent surveyed and remaining to be surveyed in each of the undermentioned Districts on the 31st March 1878.*

Districts.		Surveyed in Square Miles			Remaining to be Surveyed in Square Miles.		
Names.	Area in Square Miles.	Revenue.	Topographical.	Total.	Revenue.	Topographical.	Total.
1	2	3	4	5	6	7	8
Ganjam	8,313	1,512	3,302*	4,814	74	3,425	3,499
Vizagapatam	17,380	..	10,400†	10,400	..	6,980	6,980
Gódávari	7,345	2,880	2,703‡	5,583	..	1,762	1,762
Kistna	8,471	5,454	1,126	6,580	..	1,891	1,891
Kurnool	7,788	4,427	2,597	7,024	..	764	764
Bellary	11,007	1,044	62	1,106	6,604	3,297	9,901
Cuddapah	9,450	6,009	2,815	8,824	151	475	626
Nellore	8,739	4,232	4,507	8,739	..	..	..
Chingleput	2,842	2,096	746	2,842	..	..	..
Madras	27	27	..	27	..	..	..
North Arcot	7,139	2,843	3,417	6,260	155	724	879
South Arcot	4,873	565	..	565	2,949	1,359	4,308
Salem	7,586	3,656	3,923	7,579	..	7	7
Coimbatore	7,432	4,951	948	5,899	166	1,367	1,533
Nilgiri	978	333	578	911	56	11	67
Malabar	5,763	29	141	170	70	5,523	5,593
South Canara	3,902	..	..	..	..	3,902	3,902
Trichinopoly	3,561	2,741	820	3,561	..	..	..
Tanjore	3,654	..	..	..	..	3,654	3,654
Madura	9,502	1,481	203	1,684	566	7,252	7,818
Tinnevelly	5,381	3,080	1,719	4,799	..	582	582
Total ..	141,133	47,860	40,007	87,367	10,791	42,975	53,766

* Includes 2,500 square miles recently topographically surveyed by the Bengal Survey.
† Includes 10,400 do. do. do.
‡ Includes 1,411 do. do. do.

1818

No. VII.—*Statement of Comparative Distances between Great Trigonometrical Stations.*

Districts.	Stations.	Distances in Feet.		Difference.	Error per Mile.
		By Trigonometrical Survey.	By Revenue Survey.		
1	2	3	4	5	6
Coimbatore	Dhárápuram to Mootoocovil	59,973	60,031	+ 58	+ 5·11
	Do. to Cheugurree	123,465	123,143	− 322	− 13·77
	Do. to Oodoormalli	53,166	53,072	− 94	− 9·34
	Do. to Reangamalli	144,269	143,800	− 469	− 17·16
	Kollapaliam to Partimalai	93,139	92,844	− 295	− 16·72
	Do. to Chakkichi	89,359	89,124	− 235	− 13·89
	Do. to Oodoormalai	99,322	99,041	− 281	− 14·94
	Do. to Chengarree	65,926	65,868	− 58	− 4·65
	Yaelanatoor to Yettimalai	60,250	60,086	− 164	− 14·37
	Do. to Paramutty	102,844	102,664	− 180	− 9·24
	Paramutty to Yettimalai	42,747	42,670	− 77	− 9·51
	Woorachimalai to Paulamalai	79,876	79,663	− 213	− 14·08
	Jail House to Roman Catholic Church	5,935	5,917	− 18	− 15·01
Nilgiri	Ulnad to Kulkudi	10,681	10,667	− 14	− 6·92
	Do. to Muttunad	24,985	24,962	− 23	− 4·86
	Do. to Devishola	33,380	33,351	− 29	− 4·59
	Do. to Erremaybetta	27,630	27,625	− 5	− 0·96
	Do. to Keenjadu	28,010	28,003	− 7	− 1·32
	Do. to Kuttukadu	9,768	9,762	− 6	− 3·24
	Do. to Chinna Doddabetta	23,417	23,389	− 28	− 6·31
	Do. to Elk Hill	24,948	24,923	− 25	− 5·29
	Do. to Club Hill	22,361	22,325	− 36	− 8·05
	Do. to Doddabetta	34,378	34,336	− 42	− 6·45
	Do. to Cairn Hill	14,166	14,155	− 11	− 4·10
	Do. to Snowdon	31,691	31,638	− 53	− 8·83
	Doddabetta to Muttunad	29,346	29,211	− 35	− 6·32
	Snowdon to do.	17,699	17,678	− 21	− 6·26
	Club Hill to do.	14,457	14,456	− 1	− 0·36
	Erremaybetta to Devishola	31,986	32,010	+ 24	+ 3·96
Salem	Kishtnaghiri to Rayacottah	64,039	63,973	− 66	− 5·44
	Do. to Boditimaraux Droog	47,077	47,125	+ 48	+ 5·38
	Rayacottah to do.	44,858	44,740	− 118	− 13·89
	Do. to Balacondah Droog	45,094	44,997	− 97	− 11·38
Madura	Kunnoor Hill to Perumalor Kudramallai	57,732	57,726	− 6	− 0·55
	Eshwaramalai to Pyepaud	125,443	123,377	− 66	− 2·82
	Do. to Kunnacondah	91,398	91,279	− 119	− 6·87
	Itticul Droog to do.	152,305	151,929	− 376	− 13·03
	Ingalur Hill to do.	123,800	122,849	+ 49	+ 2·11
	Do. to Pyepaud	111,618	111,806	+ 188	+ 8·89
	Pyepaud to Pollicondah	82,373	82,232	− 141	− 9·04
Cuddapah	Chintamakelapalli to Sattamawarapolium	115,938	115,719	− 219	− 9·97
	Do. to Goondalcondah	62,267	62,081	− 186	− 15·78
	Do. to Toomacondah	88,840	88,820	− 20	− 1·19
	Goondalcondah to do.	108,473	108,391	− 82	− 3·99
	Do. to Rajanamalli	117,045	117,017	− 28	− 1·26
	Sattamawarapolium to Goondalcondah	95,340	95,214	− 126	− 6·98
	Goondalcondah to Boodhaid	102,503	102,648	+ 145	+ 7·47
North Arcot	Tellaralpett to Mangalpet Droog	75,532	75,727	+ 195	+ 13·63
	Do. to Mel Eswar Hill	103,503	103,760	+ 257	+ 13·11
	Do. to Yerpett	84,932	85,173	+ 241	+ 14·98
	Yerpett to Pfaut Droog	98,068	98,056	− 12	− 0·65
	Do. to Tripatty S. Pagoda	60,984	61,101	+ 117	+ 10·13
	Do. to Tripatty Railway Station	41,668	41,579	− 89	− 11·28
	Tripatty S. Pagoda to Paunt Droog	37,212	37,120	− 92	− 13·05
	Do. to Agarala or Chandragiri	46,762	46,676	− 86	− 9·71
	Do. to Tripatty Railway Station	31,412	31,290	− 122	− 20·50
	Agarala or Chandragiri to Ullaperi or Tripatty N. Pagoda.	44,903	44,819	− 84	− 9·88
	Do. to Paunt Droog	24,200	24,199	− 1	− 0·22
	Do. to Kupebendernetpett	42,681	42,813	+ 132	+ 16·34
	Do. to Kundrapakak	48,998	48,985	− 13	− 1·40
	Do. to Chirntanur Gopuram	56,586	56,503	− 83	− 7·74
	Do. to Mallayecondah	7,009	7,021	+ 12	+ 9·02
	Do. to Namalpetta	34,234	34,178	− 56	− 8·64
	Paunt Droog to Namalpetta	37,016	36,977	− 39	− 5·56
	Do. to Mel Eswar Hill	88,931	88,823	− 108	− 6·41
	Do. to Kundrapakak	31,001	31,000	− 1	− 0·17
	Do. to Yao Avne Gerry Hill	48,259	48,222	− 37	− 4·05
	Do. to Chirtanur Gopuram	41,409	41,317	− 92	− 11·73
	Do. to Pilloor Hill	115,555	115,601	+ 46	+ 2·10
	Do. to Ullaperi or Tripatty N. Pagoda	39,820	39,729	− 91	− 12·07

With the foregoing letter the Superintendent, Revenue Survey, submits his report on the progress made by the department during 1877-78. In accordance with the Board's suggestion in reviewing the report of the previous year the matter has been condensed: the omission of details with which former reports were loaded is a great improvement.

2. The re-organisation of the department was carried out during the year. Five combined Survey and Demarcation parties were substituted for five and-a-half Survey parties and two and-a-half Demarcation parties; detachments were employed in thirteen districts as follows:—

No. 1 Party in Salem, Coimbatore, Nilgiri, South Arcot and Malabar Districts.
No. 2 do. in Kurnool, Cuddapah, and Bellary.
No. 3 do. in Cuddapah and North Arcot.
No. 4 do. in Madura and Tinnevelly.
No. 5 do. in Ganjam, Godavari, North Arcot, and South Arcot

The desirability of contracting the field of operations was noticed last year; Colonel Scott explains the reasons which have led to the employment of scattered parties, and states that it is in contemplation to carry out concentration as far as practicable; before another year has elapsed it is hoped that the number of districts under survey may be reduced by five by the completion of work in Ganjam, Godavari, Kurnool, Cuddapah, Salem; deducting the five specified there will remain seven districts, namely, North Arcot, South Arcot, Bellary, Madura, Coimbatore, Tinnevelly, and the Nilgiri besides the Wynad Taluk of Malabar.

3. The map attached to the report illustrates the progress made up to 31st March 1878. It will be seen that survey and mapping on the 16-inch scale has been carried out in the Government taluks of Ganjam, in Godavari and Kistna, with the exception of certain Zemindari tracts, Nellore, Madras, Kurnool, Cuddapah (except Kadiri and Madhanapalle), Chingleput, Salem, Coimbatore (except Collegal), Trichinopoly and Tinnevelly, and that portions of these districts have been surveyed topographically and mapped on scales 4, 2 and 1 inch to a mile; the cadastral survey was in progress in the marginally-noted portions of districts; topographical survey was in progress in parts of Godavari, Cuddapah, North Arcot, Salem, Coimbatore, the Nilgiri and Madura; the districts of Vizagapatam, Tanjore, South Canara, and Malabar below the ghauts have not yet been taken up; the Ganjam Maliahs, Jeypore, and Rekapalli, Bhadrachalam and Rumpah in Godavari have recently been topographically surveyed by the Bengal Survey on a scale of 1 inch to a mile. Thus survey operations have up to date been extended into eighteen districts of this Presidency with an aggregate area estimated at 111,197 square miles, of which 58,151 square miles will be surveyed and mapped on the 16-inch scale and 53,046 will be treated for preparation of topographical maps on smaller scales. At the end of the year under review 47,360 square miles had been surveyed for revenue purposes, leaving 10,791 to be dealt with; 29,607 square miles had been topographically surveyed and 23,439 square miles remained, exclusive of the districts of Vizagapatam, Tanjore, South Canara, and Malabar below the ghauts (about 29,936 square miles), the course to be pursued in regard to them not having been settled.

Bellary	Allur and Adoni Taluks.
Cuddapah ..	Kadiri and Madhanapalle.
North Arcot ...	Chittur and Chandragiri.
Coimbatore ...	Collegal.
Nilgiri	South-East Wynad and portions of the plateau.
Madura	Pulney, Dindigul and Periyakulam and Shivaganga Zemindari.
South Arcot ...	Tindivanam Taluk.

4. The outturn of the year under the various distinct processes of survey are compared with the results of the two previous years in paragraph 2. Under nearly every head both of field and office work relating to the Revenue Survey there has been a falling off owing to the withdrawal of a large number of the subordinates for employment on famine duty, averaging 4 superior officers and 282 subordinates of various grades; the outturn of topographical work shows an improvement, and the

progress made with publication in the Central Office was quite up to the mark of former years; a large amount of extra work not shown in the returns was moreover executed out of office hours.

5. The total outlay during the year was Rupees 7,39,421; of this Rupees 88,379 represent the pay of the staff detached for famine duty and Rupees 22,242 the cost of estate surveys to be recovered from the proprietors; the cost of the establishment actually employed on survey work for Government was therefore only Rs. 6,28,800.

6. Attention has been devoted to the introduction of improved methods of working; the measures adopted are enumerated at the close of the report, one of the most important being the valuation of work on a system which will admit of the ascertainment of the cost of the several operations immediately on completion instead of after the lapse of a considerable time as hitherto, and a comparison being instituted between the results of different years in relation to the outlay. Considering the hindrances to work resulting from the famine the progress attained must be regarded as very satisfactory.

(A true Copy and Extract.)

Acting Secretary.

To the Secretary to Government, Revenue Department, with a map.
,, Superintendent, Revenue Survey.
Copy to the Director of Revenue Settlement, with a map.

Exd. W. J. Lewis.

1818

Revenue Department

No 1878

Proceedings of the Madras Government under date
the 12th November 78

Read the following Proceedings of
the Board of Revenue dated 30th
September 1878 no. 2672.

Recorded.

2. The progress made is satisfactory Considering the peculiar circumstances of the year.

3. His Grace the Governor in Council notices with satisfaction the general measures adopted during the year for the general improvement of the works of the department. He hopes that the

Rec 12th

Consultations
Aug 0534

1878.

Board of Revenue,

MADRAS.

To

THE SECRETARY to GOVT.,

REVENUE DEPARTMENT.

&c, &c, &c.

Dated September 30th.

Printed October 19th.

Received 22nd.

PROCEEDINGS, 30TH SEPT. 1878, No. 2672.

Sept 78-10 Rev 2001

SEPTEMBER.

No. 2,672.

Records Survey Department.—Reviewing report on the operations of the — during 1877-78.

90/2 Revenue 78

Records Surveys

Superintendent will find it possible to Concentrate the field of operations at an early date.

Genl

7 to 14 Board of Rum 9th 11th 18
13 Lieut Rumsey

4/7

1818/22

E.O.

Receiving report on the operations of Revenue Survey Dept for 1877-78.

1878

142/3

C. H. Dun 5th R 12/11/78