Revenue (1897) Department.

PRESS SERIES.

G.O. No. 842-842a

Dated 5th October

[Despatch Abstract.]

Reviewing the Survey Administration Report for 1896-97.

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nue (1897) Department.

CURRENT No. 6207

INDIA GOVT. MADRAS
21 JUL 97
REV. DEPT.

From The Superintendent,
Madras Survey.

Order

No. 77/G

Dated 20 July

Received 21/7/97

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SUBJECT.

Administration Report of the Survey Department for 1896-97 —— Submitting printed copies of the ——

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(C. O. Form No. 13.)

10

CAMP, Madras

20 July 1897.

No. 77
G

From

H. O'C. Cardozo, Esq., C.I.E.,
Superintendent, Madras Survey.

To

The Secretary to Government
Revenue Department.

REFERENCE.

Sir,

I have the honour to submit two printed copies of the Administration report of the Survey department for the year 1896-97.

2. I also forward, as directed in G.O. No. 464, dated 30 May 1893, two copies of the report ready packed for transmission to the

Secretary of State. An inner cover is addressed to the Secretary at the India Office in the Department of Revenue and Statistics, in accordance with paragraph 4 of the Secretary of State's despatch printed with G.O. No. 57, Public dated 22 January 1891.

I have the honour to be,
Sir,
Your Most Obdt Servant

Superintendent
Madras Survey

Order

MADRAS SURVEY DEPARTMENT.

ADMINISTRATION REPORT
1896-97.

REPORT ON THE OPERATIONS OF THE MADRAS SURVEY DEPARTMENT DURING 1896-97.

DURING the year, the department remained under the direction of Mr. Cardozo, Superintendent of Survey, upon whom Her Majesty was pleased to confer the Companionship of the Indian Empire on the 20th May 1896.

The work on which the department was employed was—

1. Cadastral survey for settlement, of Government lands excluded from former surveys and of lands not the property of Government, the survey of which is required for special purposes, *e.g.*, to fix the amount of water-rate, village-cess, &c.
2. Cadastral re-survey of Government lands prior to re-settlement.
3. Cadastral and detailed topographical survey of towns for municipal purposes.
4. Maintenance of survey records and boundary marks.

The report is divided into three sections. The first section deals with surveys, the second with maintenance of survey records and boundary marks and the third with general remarks.

I.—REPORT ON SURVEYS.

Survey work in seven districts and re-survey work in two districts was in progress during the year as shown below:—

Survey Division.	District.	Outturn during 1896–97. Cadastral surveys.	Cadastral re-surveys.	Town surveys.	Total.
1	2	3	4	5	6
		SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
I	Ganjám	..	..	..	..
	Vizagapatam	..	..	..	..
	Gódávari	128	..	..	128
	Kistna	..	780	..	780
	Kurnool	..	294	..	294
II	Bellary	..	..	..	..
	Anantapur	..	..	..	..
	Cuddapah	..	..	..	..
	Nellore	..	..	..	..
III	North Arcot	..	..	13	13
	Madras	..	..	3	3
	Chingleput	..	..	..	..
IV	South Arcot	279	..	2	281
	Salem	..	..	6	6
	Trichinopoly	392	..	..	392
	Tanjore	122	..	4	126
V	Madura	..	..	..	..
	Tinnevelly	114	..	..	114
	Coimbatore	..	..	4	4
VI	Nilgiris	514	..	..	514
	Malabar	838	..	..	838
	South Canara	..	..	..	..
	Total outturn, 1896–97 ..	2,387	1,074	32	3,493
	Outturn of previous year ..	2,028	1,692	25	3,745

The budget grant was Rs. 5,71,500—G.O., No. 736, Revenue, dated 21st December 1896.

The expenditure was Rs. 5,70,029.

As in former reports, this expenditure is divided under three main heads as below, and, to facilitate comparison, the figures for the previous year are also given:—

Main head.	Expenditure, 1895-96.	Expenditure, 1896-97.
	RS.	RS.
1. Survey expenditure chargeable to outturn ...	4,35,541	3,89,542
2. Survey expenditure not chargeable to outturn...	74,653	66,486
3. Maintenance of survey records and boundary marks	67,881	1,14,001
Total ...	5,78,075	5,70,029

The large increase under head of Maintenance of survey records and boundary marks is explained in section II of the report.

The survey expenditure chargeable to outturn is the cost of cadastral survey re-surveys and town surveys.

The sum spent in each district is shown in the following statement:—

Survey Division	District.	Cadastral surveys.	Cadastral re-surveys.	Town surveys.	Publication and share of Central Office.	Total.
1	2	3	4	5	6	7
		RS.	RS.	RS.	RS.	RS.
I.	Ganjám	..	..	..	..	..
	Vizagapatam	..	..	..	..	..
	Gódávari	24,904	11,510	..	..	..
	Kistna	..	32,575	..	..	36,414
II.	Kurnool	..	9,495	..	..	32,575
	Bellary	..	..	..	..	9,495
	Anantapur	..	..	..	..	..
III.	Cuddapah	..	..	..	..	..
	Nellore	..	..	..	..	..
	North Arcot	..	..	..	..	..
IV.	Madras	..	..	2,945	..	2,945
	Chingleput	..	..	35,962	..	35,962
	South Arcot	..	..	8,852	..	8,852
	Salem	..	..	..	..	..
	Trichinopoly	5,426	22,408	6,846	..	34,680
V.	Tanjore	..	..	7,303	..	..
	Madura	8,668	..	1,554	..	..
	Tinnevelly	14,939	..	12,467	..	..
VI.	Coimbatore	..	..	..	..	..
	Nilgiris	8,786	..	..	..	..
	Malabar	..	..	13,038	..	..
	South Canara	25,236	..	..	..	25,2
Central Office.	Publication, &c.	49,658	..	..	..	49,6
		..	..	..	86,970	86,9
	Total ..	1,37,617	75,988	88,967	86,970	3,89,5

Details for the expenditure not chargeable to outturn are shown below:—

Survey Division.	District.	Miscellaneous surveys. Nature of work.	Expenditure.
1	2	3	4
			RS.
I.	Ganjám	....	..
	Vizagapatam	....	..
	Gódávari	Gódávari-Hyderabad boundary	725
	Kistna	Kistna-Hyderabad boundary	238
II.	Kurnool	....	..
	Bellary		
	Anantapur		
III.	Cuddapah	....	..
	Nellore		
	North Arcot		
IV.	Madras	....	..
	Chingleput		
	South Arcot		
	Salem		
	Trichinopoly		
V.	Tanjore	....	..
	Madura		
	Tinnevelly		
VI.	Coimbatore	....	..
	Nilgiris	....	..
	Malabar	Wynaad revision and Malabar supplemental sub-division.	29,574
	South Canara	Supplemental sub-divisions and Hill sketching.	15,231
	Central Office	....	13,800
	Exchange compensation allowance	....	6,918
		Total ..	66,486

2. Outturn of each Division.—Appendix No. I to this report gives full particulars regarding outturn and expenditure for each item of survey work.

The following is a brief summary for each district under survey with such remarks as appear neces. v.

No. I Survey Division.

Officer in charge—Mr. Hasted, Acting Deputy Superintendent.

Gódávari.—One section under Mr. Spurling, Deputy Collector, working under the orders of the Collector, was employed on the cadastral survey of non-Government villages in nine taluks of the delta, of rented villages in four upland taluks, and of cultivated islands in the Gódávari belonging to five different taluks.

The work being scattered over a very large area, supervision was difficult.

The outturn was 128 square miles and the expenditure was Rs. 37,139.

Kistna.—One section under Mr. Seshacharlu, Deputy Collector, working under the orders of the Collector, was employed on cadastral re-survey by karnams in two taluks and on the demarcation of the boundary between the Kistna district and the Nizam's Dominions.

The outturn was 780 square miles and the expenditure was Rs. 32,813.

The arrears of settlement of field boundary disputes reported last year have been considerably reduced. 266 disputes were in arrears at the beginning of the year. 242 more disputes were reported during the year and 382 disputes were settled during the year, leaving 126 disputes in arrears at the end of the year. Arrangements have been made to secure settlement of all these by the end of August 1897.

No. II Survey Division.

Officer in charge—Mr. Martin, Deputy Superintendent.

Kurnool.—One section under Mr. Subba Row, Deputy Collector, working under the orders of the Collector, was employed on cadastral re-survey by karnams in two taluks.

Work was very seriously delayed by agricultural distress.
The outturn was 294 square miles and the expenditure was Rs. 9,495.

No. III Survey Division.

Officer in charge—Mr. Venkataramaya Pantulu, Assistant Superintendent—No surveys in progress.

No. IV Survey Division.

Officers in charge—Mr. Thornhill, Deputy Superintendent, for six months and Mr. Narayana Aiyar, Assistant Superintendent, for six months.

Salem.—One section under Mr. Narayana Aiyar was employed on the cadastral survey of part of the Hosur taluk which was excluded from the revenue survey of 1860—68.

The outturn was 279 square miles and the expenditure was Rs. 27,834.

The Collector remarks that "the survey work has gone on with much smoothness during the year. This was chiefly due to the tact of M.R.Ry. P. R. Narayana Aiyar Avargal."

No. V Survey Division.

Officer in charge—Mr. MacHutchin, Acting Deputy Superintendent.

Tanjore.—One section under Mr. Raghavachariar, Deputy Collector, working under the orders of the Collector, was employed on the cadastral survey of inam lands to determine the amount of village-cess (G.O., No. 152, Revenue, dated 23rd February 1894) and of chattram villages for the District Board (G.O., Mis. No. 801, dated 20th February 1895).

The outturn was 392 square miles and the expenditure was Rs. 8,668.

The survey of chattram villages was much delayed by opposition on the part of land-holders.

Madura.—One section was employed in three taluks under the personal supervision of the Survey Divisional officer, Mr. MacHutchin, on the cadastral survey of non-Government villages irrigated by the new Periyár canals and on the cadastral survey for the Court of Wards of the Saptur zemindari. The outturn was 122 square miles and the expenditure was Rs. 14,939.

No. VI Survey Division.

Officer in charge—Mr. Greene, Deputy Superintendent.

Coimbatore.—One section was employed under Mr. Bateman, Assistant Superintendent, in two taluks on the cadastral survey of lands excluded from the revenue survey of 1865—77 and of one inam village for the Perur Devastanam committee.

The outturn was 114 square miles and the expenditure was Rs. 8,786.

Malabar.—The work performed was the cadastral survey of cultivation scattered over large tracts of hill and jungle.

The outturn was 514 square miles and the expenditure was Rs. 54,810.

As reported last year, surveyors must remain in this district until the settlement is finished, in order to determine the janmam boundaries and record the changes in occupation which in this district are exceptionally numerous and complicated.

The preparation of field measurement books showing sub-divisions up to date to enable the janmis to register their titles in accordance with G.O., No. 1912, Revenue, dated 18th May 1896, is complete in Palghat and Walawanad taluks. Ponnáni and Wynaad are well advanced and Mr. Greene hopes to finish this work in 1897–98.

South Canara.—One section was employed under Mr. Taylor for two months and under Mr. Gompertz for ten months on the cadastral survey of cultivation scattered over large tracts of hill and jungle.

At the beginning of the year, it was estimated that 424 square miles of hill and jungle required to be surveyed. It was subsequently found that in order to meet the requirements of the Settlement Department, survey had to be extended to an area of 838 square miles. This was completed during the year. The expenditure was Rs. 64,889.

As in Malabar, surveyors must remain in this district until the settlement is complete.

S. O. No. 842.

Town Surveys.

The survey of seventeen municipal towns progressed under the supervision of three officers—

Mr. Greene. | Mr. Hatchell.
Mr. Srinivasa Aiyangar.

The following statement shows the outturn and expenditure of these officers:—

Name of town.	Outturn during 1896–97.	Expenditure during 1896–97.	Remarks.
1	2	3	4
	sq. mls.	Rs.	
Mr. Greene.			
1. Ootacamund	1	7,805	Survey completed.
2. Coonoor	3	5,233	do. in progress.
Mr. Hatchell.			
3. Gudiyattam	..	2,028	Survey in progress.
4. Vellore	..	663	Do.
5. Walajapet	..	254	Do.
6. Madras	13	35,962	Survey completed.
7. Conjeeveram	3	8,852	Do.
8. Vaniyambadi	2	5,100	Survey in progress.
9. Salem	..	1,341	Do.
10. Tirupattúr	..	405	Do.
11. Srirangam	6	4,497	Do.
12. Trichinopoly	..	2,806	Do.
13. Palni	2	4,351	Survey completed.
14. Periyakulam	1	4,058	Do.
15. Máyavaram	..	1,135	Survey in progress.
16. Tanjore	..	419	Do.
Mr. Srinivasa Aiyangar.			
17. Madura	1	4,058	Survey in progress.
Total	32	88,967	

Central Office.

Mr. Cook, who had held charge for six years, remained for about a month and went home on furlough early in May 1896.

The office has since been in charge of Mr. Ramaswamy Naidu, Assistant Superintendent, working under the direct personal supervision of the Superintendent. Although the work has increased, the establishment has been reduced as far as practicable without impairing efficiency.

The area of village maps printed during the year was 4,723 square miles. This is the largest outturn yet recorded and exceeds that of the previous year by 1,692 square miles.

There are no arrears of printing.

The following statement shows the total outturn of the photo-zincographic office during the year compared with that of the previous year:—

Year.	Number of copies printed.				Total number of pulls or impressions.	Remarks.
	Zincographs.		Photo-prints.	Total.		
	Village maps.	Miscellaneous maps and diagrams.				
1	2	3	4	5	6	7
1895–96	49,314	214,316	71,676	335,306	203,211	Column 6 shows the actual amount of work.
1896–97	55,594	286,947	83,497	426,038	231,636	

One district map (Anantapur) and seven taluk maps were published—see appendix No. II.

The total cost of the office, including pay of the Superintendent, was Rs. 1,03,873. This is less than in any previous year since 1882–83, and Rs. 33,756 less than in 1895–96.

3. FIELD INSPECTION BY OFFICERS.—The number of days on which gazetted officers employed in the field were absent from their head-quarters is shown below, halts at hill stations being excluded :—

No.	Name.	Number of months on duty.	Number of days absent from head-quarters.		Remarks.
			Total.	Average monthly.	
1	2	3	4	5	6
1	Mr. Thornhill	6	153	25	
2	,, Martin	12	180	15	
3	,, Greene	12	221	18	
4	,, Taylor	2	4	2	On furlough from 28th July 1896.
		12	165	14	See footnote.
5	,, Hatchell	11	151	14	
6	,, MacHutchin	11	247	22	
7	,, Hasted	12	213	18	
8	,, Venkataramaya Pantulu ..	12	183	15	
9	,, Thompson	12	255	21	
10	,, Narayana Aiyar	12	185	15	
11	,, Gompertz	12	239	20	
12	,, Bateman	12	180	15	
13	,, Spurling	10	49	5	See footnote.
14	,, Srinivasa Aiyangar	6	106	18	
15	,, Alley	11	232	21	
16	,, Raghavachariyar	9	169	19	
17	,, Seshacharlu				

NOTE.—Messrs. Hatchell and Srinivasa Aiyangar were constantly employed on field inspection at their head-quarters.

Every district under survey, except Kistna and Gódávari, was visited at least once by the Superintendent during the year. Kistna and Gódávari will be inspected in August 1897.

4. TESTS OF ACCURACY.—Theodolite work being complete as reported last year, no further comparison between Revenue Survey and Trigonometrical Survey distances was possible.

Field measurement was checked by re-measurement. The standard is 7 linear miles of re-measurement per square mile of field survey. The amount secured during the year was 7 miles.

The following statement shows the result of inspection by gazetted officers of cadastral surveys and re-surveys and of town surveys :—

Number of inspecting officers		17
Number of villages inspected		789
Number of Surveyors inspected		860
Total number of inspections		909
Quality of work inspected.	Good	294
	Fair	345
	Indifferent	181
	Bad	89

Work found to be indifferent or bad is revised.

5. AREA REMAINING FOR SURVEY.—The following statement shows in detail the area for survey in each district :—

STATEMENT showing the different items of work which have been ordered by Government but are not yet finished.

Survey division.	District.	Nature of survey.	Total area for survey.	Area surveyed up to 1st April 1897.		Area remaining for survey.			Government Order sanctioning the survey.		Probable year of completion.
				Ordinary cadastral survey.	Hill and jungle with scattered patches of cultivation.	Ordinary cadastral survey.	Hill and jungle with scattered patches of cultivation.		Number.	Date.	
1	2	3	4	5	6	7	8	9	10	11	
			sq. mls.	sq. mls.	sq. mls.	sq. mls.	sq. mls.				
I	Ganjám ..	Cadastral survey of extension of Surla salt factory.	1	..	..	1	..	1897	1858, Miscellaneous.	6th April 1897.
	Gódávari ..	Cadastral survey of Polavaram and Yellavaram divisions.	25	..	..	25	..	1897	3007, Miscellaneous.	17th June 1897.
		Cadastral survey of Yadavol estate ..	37	..	..	37	..	1897	373, Miscellaneous.	21st January 1897.
		Bhadráchalam	700	..	..	..	700 Linear miles.	1898	1011, Miscellaneous.	8th March 1895.
	Kistna	Cadastral re-survey	1,373	780	..	593	..	1898	15, Revenue; 236, Revenue; 1682, Miscellaneous.	16th January 1896. 3rd April 1897. 29th April 1896.
		Kistna-Hyderabad boundary ..	..	..	..	..	..	1897		
II	Kurnool	Cadastral re-survey	4,710	294	..	4,416	..	1902	839, Revenue.	30th December 1895.
III	Nellore	Cadastral survey of mamul wet land in Venkatagiri zemindari.	2	..	..	2	..	1897	1846, Miscellaneous.	5th April 1897.
	Chingleput ..	Koyambedu shrotriem cadastral survey	1	..	..	1	..	1897	1851, Miscellaneous.	6th April 1897.
IV	Salem	Cadastral survey	702	..	321	..	381	1898	840, Revenue.	28th November 1894.
V	Tanjore ..	Chattram villages, cadastral survey	130	33	..	97	..	1897	801, Miscellaneous.	20th February 1895.
		Inam villages, block survey ..	536	526	..	10	..	1897	152, Revenue.	23rd February 1894.
		Revision survey of salt factories	1	..	..	1	..	1897	616, Revenue.	Do.
	Madura ..	Sáptúr zemindari	43	35	..	8	..	1897	401, Revenue.	26th June 1895.
		Tevaram zemindari	20	..	..	20	..	1898	2037 Miscellaneous.	11th June 1897.
	Tinnevelly ..	Revision survey of salt factories	1	..	..	1	..	1897	616, Revenue.	17th July 1894.
	Coimbatore ..	Cadastral survey	600	..	107	..	493	1898	124, Revenue.	15th February 1894.
VI	Malabar	Supplemental sub-division for Settlement Department.	..	..	..	..	..	1898	594, Revenue.	2nd September 1895.
	South Canara	Do.	..	..	..	..	..	1898	594, Revenue.	Do.
	56. Municipal towns ..	Town surveys	257	57	..	200	..	1899	594, Revenue. 909, Financial.	29th October 1894.

6. ESTIMATE FOR 1897–98.—The following statement shows the area which is estimated to be completed during the year 1897–98, provided survey work is not stopped owing to agricultural distress:—

Survey division.	District.	Cadastral survey by Surveyors. Ordinary.	Cadastral survey by Surveyors. Special (hill and jungle).	Cadastral re-survey by karnams.	Town surveys.	Survey of salt factories.
1	2	3	4	5	6	7
		SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
I	Ganjám	..	..	..	..	..
I	Gódávari	62	..	..	..	1
I	Kistna	..	..	593	..	..
II	Kurnool	..	..	1,000	..	..
III	Nellore	2	..	..	..	..
III	North Arcot	..	..	..	..	..
IV	Chingleput	1	..	..	6	..
IV	Salem	..	381	..	..	..
IV	Trichinopoly	..	..	..	6	..
V	Tanjore	107	..	..	10	..
V	Madura	28	..	..	22	1
V	Tinnevelly	..	..	..	8	..
VI	Coimbatore	..	358	..	4	1
VI	Nilgiris	..	..	..	..	..
	Total ..	200	739	1,593	60	3

7. COST OF SURVEY WORK TO GOVERNMENT.—The total cost of the survey from its commencement in 1858 up to 1st April 1897 has been—

	RS.
(1) Survey parties	1,96,18,527
(2) Central office	33,78,081
(3) Maintenance of survey records and boundary marks ...	2,00,245
Total ...	2,31,96,853

Details of expenditure under the third head, Maintenance, are given separately in section II of this report.

The expenditure under the first and second heads is sub-divided as below:—

Expenditure on	Cadastral survey.	Cadastral re-survey.	Town survey.	Topographical survey.	Publication.	Total.
1	2	3	4	5	6	7
	RS.	RS.	RS.	RS.	RS.	RS.
I. Completed area	1,83,20,650	7,29,524	1,76,966	23,63,469	6,21,885	2,22,12,494
II. Incomplete area	..	..	..	..	906	906
III. Miscellaneous work which cannot be expressed in area ..	3,51,038	..	..	34,955	3,97,215	7,83,208
Total ..	1,86,71,688	7,29,524	1,76,966	23,98,424	10,20,006	2,29,96,608

Details under the three heads—Completed area, Incomplete area, and Miscellaneous work which cannot be expressed in area—are shown in appendix No. III to this report.

Cadastral Survey.

Particulars.	Gódávari delta non-Government villages.	Gódávari rented villages.	Salem.	Coimbatore.	Malabar (excluding area cadastrally surveyed in Wynaad, 266 square miles).	South Canara.
1	2	3	4	5	6	7
Area surveyed up to date . Sq. mls.	599	80	321	107	4,576	3,560
Total expenditure up to date .. .. .. Rs.	59,275	11,020	7,771	8,364	9,91,757	5,37,151
Rate per square mile on area surveyed up to date. ,,	99	138	24	78	217	151
Estimated area remaining for survey .. .. Sq. mls.	..	..	381	493	..	..
Estimated expenditure .. Rs.	..	..	20,000	27,500	..	..
Estimated total area .. Sq. mls.	..	..	702	600	..	..
Estimated total cost .. Rs.	..	..	27,771	35,864	..	..
Estimated rate per square mile .. .. .. ,,	..	..	40	60	..	..

Cadastral Re-Survey.

Particulars.	Gódávari.	Kistna.	Kurnool.	Salem.
1	2	3	4	5
Area re-surveyed up to date .. .. Sq. mls.	2,517	2,983	294	2,325
Total expenditure up to date .. .. Rs.	1,79,812	2,07,107	2,495	71,112
Rate per square mile on area re-surveyed up to date . ,,	71	69	32	31
Estimated area remaining for survey .. .. .. Sq. mls.	..	593	4,416	..
Estimated expenditure .. .. Rs.	..	66,200	1,38,000	..
Estimated total area .. .. Sq mls.	..	3,576	4,710	..
Estimated total cost .. .. Rs.	..	2,73,307	1,47,495	..
Estimated rate per square mile .. .. .. ,,	..	76	31	..

The above statements do not include the cost of boundary marks generally paid by land-holders.

The rates per square mile differ very slightly from those shown in last year's report.

8. COST OF WORK TO RYOTS.—In the Kistna, Salem and Coimbatore districts, the ryots provided stones for boundary marks under section V of the Boundary Act. No advances were therefore necessary; but in Gódávari, Malabar and Canara, the cost of demarcation was paid for in advance by Government and afterwards recovered from the landholders under section VII of the Boundary Act. The average cost per acre to landholders is shown below:—

Gódávari	3 annas
Malabar	3 ,,
Canara	2 ,,

These rates are the same as in the previous year.

9. SURVEY ADVANCES.—The following is a brief summary of the detailed report on the subject of survey advances submitted separately as directed in G.O., No. 823, Revenue, dated 8th October 1889.

Permanent advances.—The permanent advance for contingencies to officers in charge of parties was raised during 1896–97 from Rs. 2,500 to Rs. 4,100, the increase of Rs. 1,600 being advances sanctioned for the survey of Periyár wet lands, Kurnool re-survey and Madras town surveys and for the six survey divisions.

Temporary advances.—The temporary advance for demarcation stones was raised during 1896–97 from Rs. 1,92,781–10–8 to Rs. 2,08,671–10–8. The increase, Rs. 15,890, is the advance of Rs. 15,000 sanctioned for the Kurnool re-survey (G.O., No. 4952, dated 4th December 1896) and of Rs. 1,000 sanctioned for the Coonoor town survey (G.O., No. 838, dated 12th February 1897), less Rs. 110, sale-proceeds of stones in the custody of the Collector of Tanjore. The sums mentioned

above are floating advances and limit the amount which may be outstanding at any given time. At the end of the year, the total amount outstanding and recoverable from ryots was Rs. 56,401-6-6. The amount similarly outstanding on 1st April 1896, was Rs. 1,35,821-9-4.

10. Working of the Boundary Act.—During the year, no fines were inflicted under the Boundary Act except in Tanjore, where the Survey Deputy Collector fined seventeen ryots, altogether Rs. 13-8-0, for non-attendance. As the Superintendent considered that the Deputy Collector had acted without sufficient authority, the fines were cancelled.

II.—REPORT ON MAINTENANCE OF SURVEY RECORDS AND BOUNDARY MARKS.

It was explained in last year's report that until field measurement books are completed, maintenance of survey records and boundary marks cannot progress satisfactorily. At the beginning of the year, measurement books for only 2,329 villages were ready, leaving 20,975 villages to complete the Presidency. Of these, 4,396 were expected to be completed in six months. This estimate was realised and at the end of the year, the total number of villages completed was 9,127, more than one-third of the total number in the Presidency. The record of changes in occupation since the survey is now reported to be complete in 3,062 villages and missing boundary marks have been replaced in 5,475 villages. The districts in which the most satisfactory progress has been made are Salem, South Arcot and Chingleput. Those in which little or nothing has been done are Ganjám, Kurnool, Anantapur, Nellore and Cuddapah, the reason being that owing to agricultural distress, the karnams could not be spared for survey work. The prospects of successful maintenance in districts recently surveyed are now more hopeful, but as reported in my note printed with Board's Proceedings, No. 354, dated 18th September 1896, it will, no doubt, be necessary to re-survey several districts before resettlement.

The number of men instructed at survey schools was 12,913, being 734 less than in the previous year. The percentage of men classed as good or fair fell from 63 per cent. in the previous year to 52, while that for men classed as indifferent or bad rose from 37 to 48 per cent. But the figures do not really admit of comparison as the test applied in 1896–97, was not only much more severe, but was applied with uniform strictness in the different districts (appendix No. VI to this report). The change was most noticeable in Tanjore, where the examiners in the previous year had evidently been too lenient.

To show the interest taken in this subject, a copy of a Telugu book entitled "The Village Karnam's Mensuration," price one rupee per copy, compiled and published by K. Subbiah, Karnam of Pulicherla village, Ramallakót taluk, Kurnool district, is submitted herewith (appendix No. VIII to this report). The compiler is anxious that it should be prescribed by Government as a text-book for karnams. The book, although carefully compiled, is not sufficiently simple for the average karnam. But the compiler deserves encouragement and he has been informed that his intelligent enterprise will be brought to the favourable notice of Government.

The following statements show the progress of work up to date and the cost during the year:—

Maintenance—Outturn.

Division.	District.	Number of taluks.	Total number of Government villages.	Number of men instructed at the survey schools in 1896.					Progress of Karnams' work up to 31st March 1897.				Remarks.
				Total.	Qualification.				Preparation of field measurement books.		Sub-divisions measured.	Missing stones replaced.	
					Good.	Fair.	Indifferent.	Bad.	Completed.	Balance.			
									Villages.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I	Ganjám	3	974	106	55	40	6	5	..	974	..	..	
	Vizagapatam	3	278	189	21	29	60	79	40	238	2	70	Schools not held in Berhampur and Goomsur taluks—Board's Proceedings, Mis. No. 6347, dated 30th October 1896.
	Gódávari	9	839	1,046	187	319	249	291	219	620	219	..	
	Kistna	11	1,126	1,400	138	441	409	412	131	995	131	..	
	Kurnool	8	699	613	89	207	189	128	1	698	..	..	The district is under resurvey. School not held in Pattikonda taluk—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
II	Bellary	8	873	278	60	95	102	31	34	839	..	..	Schools not held in Rayadrug, Bellary and Adóni taluks—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
	Anantapur	8	609	250	50	64	91	45	1	608	..	..	Schools not held in Hindupur, Anantapur, Dharmavaram and Penukonda taluks—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
III	Cuddapah	11	1,092	420	74	120	172	54	..	1,092	..	..	Schools not held in Proddatur, Badvel and Pulivendla taluks—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
	Nellore	9	697	491	186	97	141	67	..	597	..	..	Schools not held in Nellore and Kanigiri taluks—Board's Proceedings, Mis. No. 5646, dated 12th November 1896
	North Arcot	9	1,523	864	210	258	290	106	79	1,444	..	..	School not held in Walajapet taluk—Board's Proceedings, Mis. No. 6729, dated 17th November 1896.
IV	Chingleput	6	1,475	492	84	187	162	109	1,385	90	54	1,155	Schools not held in Tiruvallúr and Ponnéri taluks—Board's Proceedings, Mis. No. 5494, dated 6th November 1896.
	South Arcot	8	2,586	1,408	84	422	466	436	2,062	524	880	2,031	
	Salem	9	2,622	210	66	94	37	13	2,450	172	1,355	1,716	Schools not held in the five taluks under resurvey and in the Dharmapuri taluk—Board's Proceedings, Mis No. 4012, dated 15th August 1896, and No. 5810, dated 19th November 1896.
V	Trichinopoly	5	676	1,718	631	..	..	..	576	..	..	55	No schools were held, as the karnams are all trained surveyors. They have just resurveyed the district.
	Tanjore	9	1,433	1,718	631	427	512	248	638	895	..	1	
	Madura	6	728	676	236	171	175	95	108	620	..	447	
	Tinnevelly	9	886	964	251	308	218	187	155	731	1	..	
VI	Coimbatore	10	1,856	1,030	298	313	196	223	217	1,139	..	..	Bearings and distances are being entered in maps prior to preparation of field measurement books.
	Nilgiris	1	36	30	13	10	6	1	..	36	..	..	
	Malabar	9	2,163	486	98	223	136	29	711	1,452	..	..	
	South Canara	6	833	242	116	77	24	25	420	413	420	..	
	Total	156	23,304	12,913	2,786	3,902	3,641	2,584	9,127	14,177	3,063	5,475	

Maintenance—Cost.

Division.	Gazetted officers' pay and allowances.	Establishment pay and travelling allowances.	Contingencies.	Total.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
I	9,246	5,139	259	14,644
II	16,020	4,056	278	20,354
III	6,043	4,585	341	10,969
IV	12,201	4,635	302	17,138
V	9,041	3,831	320	13,192
VI	*Nil*—as the officers in charge of cadastral surveys in Malabar and Canara supervise the district establishment or maintenance.	35,810	1,894	37,704
Total for 1896-97	52,551	58,056	3,394	1,14,001
Add expenditure during 1895-96.	45,619	21,328	934	67,881
Add previous expenditure ..	12,187	6,004	172	18,363
Grand Total ..	1,10,357	85,388	4,500	2,00,245

The expenditure on maintenance has risen from Rs. 67,881 in 1895-96 to Rs. 1,14,001 in 1896-97. The difference is chiefly the cost of preparation by special agency, of field measurement books for Janmis in Malabar, sanctioned in G.O., No. 1912, Revenue, dated 18th May 1896.

III.—GENERAL REMARKS.

As the work of the department approaches completion, it is not possible to obtain as large an outturn as in former years. Every surveyor knows that exertion on his part must reduce the period for which his services are likely to be required. In spite of this difficulty, the officers generally have done all they could to secure a fair outturn.

Mr. Greene and Mr. Ramaswamy Naidu have had exceptional difficulties to contend with and deserve special commendation.

Two Assistant Superintendents, Messrs. Mullins and Lushington, were employed as Forest Boundary Settlement officers throughout the year.

Training of Revenue and Forest officers.—Fifteen Assistant Collectors and four Deputy Collectors were instructed in surveying during the year. Their names are shown below:—

Fifteen Assistant Collectors.

Mr. J. J. Cotton.
„ J. S. Heaney.
„ A. R. K. Banerjee.
„ R. W. D'E Ashe.
„ E. S. Lloyd.
Mr. R. B. Wood.
„ A. Thompson.
„ N. MacMichael.
„ F. A. Coleridge.
„ A. B. Willimott.
Mr. A. Edgington.
„ J. F. Bryant.
„ J. G. Burn.
„ P. K. Dadachanji.
„ P. A. Booty.

Four Deputy Collectors.

Mr. N. S. Somasundra Sastri.
„ P. Sitaramayya.
Mr. V. Ramaswami Aiyar.
„ J. R. Coombes.

Service books.—All service books have been written up to date.

Inventory of valuable stock.—The inventory of valuable stock ordered in G.O., No. 843, dated 22nd July 1887, has been maintained and was checked at the end of the official year.

Appendices.—The following appendices are attached:—

I. Outturn and expenditure of field sections during 1896-97.
II. Outturn and expenditure of Central office during 1896-97.
III. Cost of work including share of Central office.
IV. General abstract for 1896-97.
V. Area surveyed and remaining for survey in each district up to 31st March 1897.
VI. Instructions for conducting survey schools, 1896.
VII. Outline sketch-maps of the Presidency and of each district showing progress of survey up to 31st March 1897.
VIII. Village Karnam's Mensuration by a karnam of the Kurnool district.

Survey office, Madras, 20 July 1897.

Superintendent, Madras Survey.

APPENDIX No. I.

Outturn and Expenditure of Field Sections during 1896-97.

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey. Number.	Government Order sanctioning the survey. Date.	Finishing maps and records—Recess work. Balance on 1st April 1897.	Finishing maps and records—Recess work. Completed. Total on 1st April 1897.	Finishing maps and records—Recess work. Completed. During 1896-97.	Field Survey. Balance on 1st April 1897.	Field Survey. Completed. Total on 1st April 1897.	Field Survey. Completed. During 1896-97.	Field Survey. Completed. Up to 1st April 1896.	Scale of maps, inches to one mile.	Approximate area for survey.	Cost during 1896-97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
1	2	3	4	5	6	15	16	17	18	19	20	21	22	23	24	25	26	27
	No. I. Survey Division.					Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.	Sq. M.		Sq. M.	Rs.	Rs.	Rs.	
Godávari	*Expenditure chargeable to outturn.*																	
	Narsapur ..	1	Cadastral Survey.	1084 & 2425, Revenue.	14th November 1891 and 18th June 1896.	..	29	20	..	29	1	28	16	29	366	7,277	261	Non-Government villages; stone boundary marks paid for by Government.
	Bhimavaram ..	2				..	106	6	..	106	..	106	16	106	1,679	26,671	261	
	Tanuku ..	3				..	113	32	..	113	1	112	16	113	1,384	20,664	182	
	Amalápuram ..	4				..	107	..	..	107	..	107	16	107	600	19,031	178	
	Rámachandrapuram ..	5				..	61	51	..	61	..	61	16	61	253	8,307	163	
	Cocanada ..	6				..	117	51	..	117	..	117	16	117	4,206	16,587	142	
	Rajahmundry ..	7				..	23	6	..	23	4	36	16	23	252	3,620	157	
	Ellore ..	8				..	40	40	..	40	4	36	16	40	1,875	4,206	105	
	Yernagúdem ..	9				..	13	13	..	13	4	9	16	13	933	1,360	105	
	Total ..					..	599	168	..	599	10	689	..	599	11,438	1,07,523	180	
	Expenditure chargeable to outturn.																	
	Rajahmundry ..	10	Cadastral survey.	684, Rev., and 2541 Board's Proceedings (Settlement).	14th October 1895 and 27th May 1896.	..	5	5	..	5	5	..	8	5	783	783	157	Government villages; Survey of hill and jungle containing scattered patches of cultivation.
	Peddápuram ..	11				..	18	18	..	31	31	..	8	31	5,183	5,183	167	
	Ellore ..	12				..	20	20	..	20	20	..	8	20	2,453	2,453	123	
	Yernagúdem ..	13				..	15	15	..	24	24	..	8	24	2,601	2,601	108	
	Total ..					..	58	58	..	80	80	..	..	80	11,020	11,020	138	
	Expenditure chargeable to outturn.																	
	Narsapur ..	14	Cadastral survey.	....	....	..	6	6	..	6	6	..	16	6	2,446	2,446	64	Government villages; Islands in the Gódávari Rivers.
	Bhimavaram ..	15				..	19	19	..	19	19	..	16	19				
	Tanuku ..	16				..	2	2	..	2	2	..	16	2				
	Amalápuram ..	17				..	1	1	..	1	1	..	16	1				
	Rámachandrapuram ..	18				..	10	10	..	10	10	..	16	10				
	Total ..					..	38	38	..	38	38	..	..	38	2,446	2,446	64	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field sections during 1896–97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896–97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.			Balance on 1st April 1897.	Completed.			Balance on 1st April 1897.				
				Number.	Date.			Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.		Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
						SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
	No. I Survey Division. *Expenditure chargeable to outturn*—cont.																		
Gódávari—cont.	Narsapur	19	Cadastral re-survey.	1084, Revenue.	14th November 1891.	376	16	376	..	376	..	376	..	376	..	..	33,040	88	Government villages; stone boundary marks paid for by landholders.
	Bhimavaram	20				216	16	216	..	216	..	216	..	216	..	..	21,399	99	
	Tanuku	21				221	16	221	..	221	..	221	..	221	..	..	21,057	95	
	Amalápuram	22				274	16	274	..	274	..	274	..	274	..	..	18,391	67	
	Rámachandrapurara.	23				318	16	318	..	318	..	318	..	318	..	..	19,253	61	
	Rajahmundry	24				261	16	261	..	261	..	240	21	261	..	867	13,693	52	
	Peddápuram	25				208	16	208	..	208	..	78	130	208	..	1,493	12,516	60	
	Ellore	26				345	16	345	..	345	..	335	10	345	..	3,886	19,186	56	
	Yernagudem	27				298	16	298	..	298	..	288	10	298	..	5,264	21,277	71	
	Total	..	....	....	....	2,517	..	2,517	..	2,517	..	2,346	171	2,517	..	11,510	1,79,812	71	
Kistna.	Bunder	28	Cadastral re-survey.	1084, Revenue. 15, Revenue ..	14th Nov. 1891. 16th Jan. 1896..	406	16	406	..	406	..	406	..	406	..	..	34,552	85	
	Gudiváda	29				355	16	355	..	355	..	355	..	355	..	307	33,537	94	
	Bezwada	30				175	16	175	..	175	..	175	..	175	..	..	15,470	88	
	Bapatla	31				664	16	664	..	664	..	657	7	664	..	2,138	63,924	96	
	Répalle	32				603	16	603	..	603	..	580	23	603	..	15,556	45,050	75	
	Guntúr	33				459	16	..	459	459	..	..	214	214	245	8,021	8,021	17	
	Nandigáma	34				417	16	..	321	321	96	..	78	78	339	6,553	6,553	16	
	Total	..	....	....	....	3,079	..	2,203	780	2,983	96	2,173	322	2,495	584	32,575	2,07,107	67	
	Expenditure not chargeable to outturn.																		
Gódávari.	Bhadrachalam	35	....	712, Revenue ..	18th Feb. 1896.	..	..	..	..	..	..	..	..	..	..	725	..	..	Survey of the Gódávari-Hyderabad boundary.
Kistna.	....	36	....	1682, Revenue ..	29th April 1895.	..	..	..	..	..	..	..	..	..	..	238	..	..	Survey of the Kistna-Hyderabad boundary.
	Total	..	....	....	....	..	..	..	..	..	..	..	..	..	..	963	..	..	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896–97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896–97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.			Balance on 1st April 1897.	Completed.			Balance on 1st April 1897.				
				Number.	Date.			Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.		Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
						SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
	No. II Survey Division. *Expenditure chargeable to outturn.*																		
Kurnool.	Ramallakot	1	Cadastral Re-survey.	839, Revenue ..	30th Dec. 1895.	775	16	..	171	171	604	..	..	..	775	4,783	4,783	6	
	Nandikotkur	2				677	16	..	123	123	554	..	..	..	677	4,712	4,712	7	
	Total	..	..	..	..	1,452	..	..	294	294	1,158	..	..	..	1,452	9,495	9,495	7	
	No. III Survey Division. *Expenditure chargeable to outturn.*																		
North Arcot.	Gudiyáttam	1	Town surveys.	909, Financial..	29th Oct. 1894.	1	40	..	..	..	1	..	..	..	1	2,028	2,028	2,028	
	Vellore	2				3	40	..	..	..	3	..	..	..	3	663	663	221	
	Walájapet	3				1	40	..	..	..	1	..	..	..	1	254	254	254	
	Total	..	..	..	..	5	..	..	..	..	5	..	..	..	5	2,945	2,945	..	
	No. IV Survey Division. *Expenditure chargeable to outturn.*																		
Chingleput.	Madras	1	Town surveys.	909, Financial..	29th Oct. 1894.	27	40	14	13	27	..	..	18	18	9	35,962	74,402	2,755	
	Conjeeveram	2				4	40	1	3	4	..	..	1	1	3	8,852	11,578	2,895	
		..	..	..	..	31	..	15	16	31	..	..	19	19	12	44,814	85,980	..	
Salem.	Uttangarai	3	Cadastral survey.	840, Revenue ..	28th Nov. 1894.	19	16	..	19	19	..	..	19	19	..	545	545	29	Survey of hill and jungle containing scattered patches of cultivation.
	Hosur	4				300	16	40	260	300	..	2	..	2	298	4,881	7,226	24	
		..	..	..	..	319	..	40	279	319	..	2	19	21	298	[illegible]	..	..	
	Námakkal	5	Cadastral re-survey.	1053, Revenue ..	3rd Dec. 1893.	278	16	278	..	278	..	205	73	278	..	1,764	10,660	38	
	Tiruchengodu	6				447	16	447	..	447	..	194	253	447	..	3,282	12,338	28	
	Salem	7				656	16	656	..	656	..	106	550	656	..	6,039	17,074	26	
	Atúr	8				433	16	433	..	433	..	45	388	433	..	5,702	15,343	35	
	Uttangarai	9				511	16	511	..	511	..	49	462	511	..	5,621	15,697	31	
		..	..	..	..	2,325	..	2,325	..	2,325	..	599	1,726	2,325	..	22,408	71,112	31	
	Vániyambádi	10	Town surveys.	909, Financial.	29th Oct. 1894.	3	40	..	2	2	1	..	..	..	3	5,100	5,100	1,700	
	Salem	11				3	40	..	..	..	3	..	..	..	3	1,341	1,341	447	
	Tiruppattur	12				2	40	..	..	..	2	..	..	..	2	405	405	202	
	Total	..	..	..	..	8	..	..	2	2	6	..	..	..	8	6,846	6,846	856	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896-97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896-97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
						SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
	No. IV Survey Division—*cont.*																		
	Expenditure chargeable to outturn.																		
Trichinopoly.	Marungapuri zemindari.	13	Cadastral survey.	826, Revenue ..	15th April 1893.	164	16	164	..	164	..	20	144	164	..	..	..	..	Survey for the Court of Wards. Rs.7,895 expended during 1896-97 was paid from funds provided by the Court of Wards. On finishing the maps of the Marungapuri zemindari, the area completed under field survey was found to require correction from 180 to 164 square miles.
	Srírangam	14	Town surveys.	909, Financial..	29th Oct. 1894.	7	40	..	6	6	1	..	..	..	7	4,497	4,497	642	
	Trichinopoly ..	15				8	40	..	..	..	8	..	..	..	8	2,806	2,806	351	
	No. V Survey Division.																		
	Expenditure chargeable to outturn.																		
Tanjore.	Pattukottai	1	Cadastral survey.	152, Revenue.	23rd Feb. 1894.	536	8	167	359	526	10	..	522	522	14	8,668	11,608	22	Block survey of inam villages.
	Shiyáli																		
	Mayavaram																		
	Nannilam																		
	Negapatam																		
	Kumbakónam ..																		
	Tarfjore																		
	Mannárgudi																		
	Tirutturaippúndi ..																		
	Tanjore	2	Do.	801, Miscellaneous.	20th Feb. 1895.	130	8	..	33	33	97	..	..	..	130	..	..	..	Survey of chattram villages for the District Board. Rs. 3,323 expended during 1896-97 was paid from funds provided by the District Board.
	Máyavaram	3	Town surveys.	909, Financial.	29th Oct. 1894.	2	40	..	..	..	2	..	..	..	2	1,135	1,135	567	
	Tanjore	4				..	40	..	..	..	..	..	..	..	..	419	419	..	

APPENDIX No. I.—*continued.*

Outturn and Expenditure of Field Sections during 1896-97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896-97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
						SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
	No. V Survey Division—*cont.*																		
	Expenditure chargeable to outturn.																		
Madura.	Madura	5	Cadastral survey.	4572, Miscellaneous.	14th Nov. 1895.	87	16	..	87	87	..	..	46	46	41	14,939	14,939	172	Non-Government villages commanded by the Periyár Project. Survey for the Court of Wards; Rs. 6,494 expended during 1896-97 was paid from funds provided by the Court of Wards.
	Mélár																		
	Dindigul																		
	Sáptúr zemindari ..	6	Do.	401, Revenue.	26th June 1895.	43	16	..	35	35	8	..	4	4	39	..	..	..	
	Palni	7	Town surveys.	909, Financial.	29th Oct. 1894.	2	40	..	2	2	..	..	..	..	2	4,351	4,351	2,175	
	Periyakulam ..	8				1	40	..	1	1	..	..	..	..	1	4,058	4,058	2,029	
	Madura	9				6	40	..	1	1	5	..	..	..	6	4,058	4,058	2,029	
	Total ..	..	....	....	....	9	..	..	4	4	5	..	..	..	9	12,467	12,467	..	
	No. VI Survey Division.																		
	Expenditure chargeable to outturn.																		
Coimbatore.	Satyamangalam ..	1	Cadastral survey.	124, Revenue	15th Feb. 1894.	204	8	..	92	92	112	..	..	..	204	7,649	7,649	37	Survey of hill and jungle containing scattered patches of cultivation.
	Bhavání	2				88	8	..	15	15	73	..	..	..	88	715	715	8	
	Total ..	..	....	....	....	292	..	..	107	107	185	..	..	..	292	8,364	8,364	29	
	Mavathampatti ..	3	Cadastral survey.	4,885	4th Dec. 1895.	7	16	..	7	7	..	..	7	7	..	422	422	60	Cost of survey to be recovered from Perur Devastanam Committee.

APPENDIX No. I.—*continued.*

Outturn and Expenditure of Field Sections during 1896–97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896–97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. VI Survey Division—*cont.*					SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	Rs.	Rs.	Rs.	
	***Expenditure chargeable to outturn*—cont.**																		
Nilgiris	Ootacamund	4	Town survey.	909, Financial	29th October 1894.	11	40	10	1	11	..	..	6	6	5	7,805	20,807	1,892	
Nilgiris	Coonoor	5	Town survey.	909, Financial	29th October 1894.	7	40	..	3	3	4	..	..	..	7	5,233	5,233	748	
	Total ..	..	....	....	....	18	..	10	4	14	4	..	6	6	12	13,038	26,040	..	
Malabar.	Kóttayam	6	Cadastral survey.	315, Revenue.	22nd March 1887.	337	16	337	..	337	..	279	..	279	58	..	68,865	204	
Malabar.	Ernad	7	Cadastral survey.	315, Revenue.	22nd March 1887.	638	16	638	..	638	..	454	32	486	152	2,868	1,20,883	189	
Malabar.	Chirakkal	8	Cadastral survey.	315, Revenue.	22nd March 1887.	335	16	335	..	335	..	247	72	319	16	4,508	80,497	240	
Malabar.	Calicut	9	Cadastral survey.	315, Revenue.	22nd March 1887.	273	16	273	..	273	..	261	12	273	..	..	58,830	215	
	Total ..	..	....	....	....	1,583	..	1,583	..	1,583	..	1,241	116	1,357	226	7,376	3,29,065	..	
Malabar.	Palghat	10	Cadastral survey.	594, Revenue.	2nd September 1895.	1,168	8	654	514	1,168	..	..	55	55	1,113	17,860	31,050	27	Survey of hill and jungle containing scattered patches of cultivation.
Malabar.	Walavanad																		
Malabar.	Kurumbranát ..																		
Malabar.	Kóttayam																		
Malabar.	Ernad																		
Malabar.	Chirakkal																		
Malabar.	Calicut																		
South Canara.	Mangalore	11	Do.	315, Revenue.	22nd March 1887.	671	16	671	..	671	..	585	..	585	86	..	1,24,761	186	
South Canara.	Udipi	12	Do.	315, Revenue.	22nd March 1887.	751	16	751	..	751	..	729	22	751	..	784	1,12,797	150	
South Canara.	Uppinangadi	13	Do.	315, Revenue.	22nd March 1887.	429	16	429	..	429	..	211	218	429	..	6,010	38.921	91	
South Canara.	Coondapoor	14	Do.	315, Revenue.	22nd March 1887.	366	16	366	..	366	..	330	36	366	..	2,305	61,445	168	
	Total ..	..	....	....	....	2,217	..	2,217	..	2,217	..	1,855	276	2,131	86	9,099	3,37,924	..	

APPENDIX No. I.—*continued.*

Outturn and Expenditure of Field Sections during 1896–97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896–97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. VI Survey Division—*cont.*					SQ. M.		SQ. M.	SQ. M.	SQ. M	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	Rs.	Rs.	Rs.	
	***Expenditure chargeable to outturn*—cont.**																		
South Canara—*cont.*	Uppinangadi ..	15	Cadastral survey.	594, Revenue.	2nd September 1895	522	8	72	450	522	..	..	372	372	150	40,559	48,189	46	Survey of hill and jungle containing scattered patches of cultivation.
South Canara—*cont.*	Coondapoor	16	Cadastral survey.	594, Revenue.	2nd September 1895	146	8	146	..	146	..	..	146	146	..				
South Canara—*cont.*	Kasaragod	17	Cadastral survey.	594, Revenue.	2nd September 1895	377	8	..	377	377	..	..	..	..	377				
South Canara—*cont.*	Mangalore	18	Cadastral survey.	594, Revenue.	2nd September 1895	11	8	..	11	11	..	..	..	..	11				
	Total ..			..	..	1,056	..	218	838	1,056	..	..	518	518	538	..	..	..	
	Expenditure not chargeable to outturn.																		
Malabar.	Wynaad	19	Revision of survey and settlement.	1071, Revenue.	11th December 1893.	..	..	..	..	..	..	..	..	..	..	15,854	..	..	
Malabar.	Kurumbranát ..	20	Supplemental sub-division.	594, Revenue.	2nd September 1895.	..	..	..	..	..	..	..	..	..	..	5,696	..	..	
Malabar.	Ponnáni	21	Supplemental sub-division.	594, Revenue.	2nd September 1895.	..	..	..	..	..	..	..	..	..	..	6,438	..	..	
Malabar.	Ponnáni	22	Demarcation and survey of Ponnáni-Cochin boundary.	150, Revenue. 543, Miscellaneous.	22nd February 1894. 6th February 1895.	..	..	..	..	..	..	..	..	..	..	1,586	2,151	..	
												Exchange compensation allowance ..				1,757	..	..	
														Total ..		31,331	..	..	
South Canara.	Kasaragod	23	Supplemental sub-division.	594, Revenue.	2nd September 1895.	..	..	..	..	..	..	..	..	..	..	13,408	..	..	
South Canara.	Do.	24	Hill sketching..	..	..	..	..	..	..	..	..	..	..	..	..	1,008	..	..	
South Canara.	Mangalore	25	Do. ..	..	..	..	..	..	..	..	..	..	..	..	..	815	..	..	
												Exchange compensation allowance ..				953	..	..	
														Total ..		16,184	..	..	
	Town Surveys— ..											Exchange compensation allowance ..				1,105	..	..	

APPENDIX No. II.

Outturn and Expenditure of Central Office during 1896–97.

Maps published.	Scale inches to 1 mile.	Area in square miles.	Cost of finished work including expenditure during previous years.	Rate per square mile.
1	2	3	4	5
			Rs.	Rs. A. P.
Government villages	16 and 8	4,723	11,489	2 6 11
Non-Government villages	4	14	46	3 4 7
Taluk *	1	3,512	5,006	1 6 10
District	½	5,312	688	0 2 1
		copies.		
Miscellaneous maps	..	286,947	13,800	..
Share of Central Office debitable to parties	..	..	72,541	..
Total	..	..	1,03,570	..
Add outlay on incomplete work on 1st April 1897	..	..	906	..
Total	..	..	1,04,476	..
Deduct outlay on incomplete work on 1st April 1896	..	..	3,706	..
	..	..	1,00,770	..
Exchange compensation allowance	..	..	3,103	..
Expenditure of Central Office during 1896–97	..	..	1,03,873	..

* Kalyandrug. Kottayam. Calicut.
Hindúpur. Ernad. Mangalore.
Madakasíra.

Year.	Zincographed		Supplied for Government purposes.	Sold to private individuals.	
	Copies.	Pulls.	Copies.	Copies.	Price.
1	2	3	4	5	6
	No.	No.	No.	No.	Rs. A. P.
1894–95	235,473	204,347	177,113	328	719 8 0
1895–96	263,630	203,211	220,243	504	982 0 0
1896–97	342,541	231,636	255,960	885	959 10 0

APPENDIX No. III.

Cost of work including share of Central Office.

Nature of work.	Scale inches to a mile.	Up to 31st March 1896.			Up to 31st March 1897.		
		Outturn.	Outlay.	Rate per square mile.	Outturn.	Outlay.	Rate per square mile.
1	2	3	4	5	6	7	8
Completed area.		Sq. mls.	Rs.	Rs. A. P.	Sq. mls.	Rs.	Rs. A. P.
Cadastral survey—							
Demarcation	16	38,851	38,73,835	100 0 0	* 41,170	39,15,833	95 0 0
Field survey	16	74,945	1,42,77,982	192 0 0	* 77,264	1,44,04,817	186 0 0
Cadastral re-survey—							
Demarcation	16	9,778	1,48,787	15 0 0	10,852	1,61,585	15 0 0
Field survey	16	9,778	4,87,513	50 0 0	10,852	5,67,939	52 0 0
Town survey	40	25	67,818	2,713 0 0	57	1,76,966	3,105 0 0
Topographical survey	Various.	58,080	23,63,469	41 0 0	58,080	23,63,469	41 0 0
Publication—							
Government villages and coffee or tea plantations.	16 & 8	83,146	3,82,278	4 9 9	87,869	3,96,373	4 8 2
Non-Government villages	4	12,627	17,449	1 6 1	12,641	17,505	1 6 2
Taluk maps	1	109,884	1,17,868	1 0 1	1,13,396	1,24,010	1 1 6
District maps	½	96,037	73,909	0 12 4	101,349	74,753	0 11 10
Quarter atlas sheets	¼	53,940	9,244	0 2 9	53,940	9,244	0 2 9
Incomplete area.							
Cadastral survey—							
Publication	..	..	3,706	..	..	906	..
Miscellaneous work which cannot be expressed in area.							
Cadastral survey	..	..	1,68,709	..	..	2,14,477	..
Topographical	..	..	34,955	..	..	34,955	..
Publication	..	..	3,83,415	..	..	3,97,215	..
Survey training of karnams	..	..	71,468	..	..	71,468	..
Survey instruments for karnams ..	..	..	25,295	..	..	25,295	..
Exchange compensation allowance ..	..	..	32,880	..	..	39,798	..
Total ..	..	..	2,25,40,580	..	..	2,29,96,608	..
Add cost of maintenance of boundary marks and survey records.	..	..	86,244	..	..	2,00,245	..
Grand Total ..	..	..	2,26,26,824	..	..	2,31,96,853	..

* Excludes 248 square miles, area surveyed in the Marungápuri zemindari, Trichinopoly district, Saptur zemindari, Madura district, and Tanjore Chattram villages, Tanjore district, for which cost was not incurred by the Survey Department.

APPENDIX No. IV.

General Abstract for 1896–97.

Area surveyed and remaining for survey.

Particulars.	Revenue.	Topographical.	Total.
1	2	3	4
	Sq. mls.	Sq. mls.	Sq. mls.
Total estimated area of the Presidency by latest calculation	73,069	70,006	143,075
Surveyed up to end of 1895–96	73,069	56,334	129,403
Surveyed in 1896–97	..	..	..
Surveyed up to end of 1896–97	73,069	56,334	129,403
Handed over to Survey of India	..	13,672	13,672
Balance for survey by Madras Survey	..	..	..

Note.—Of the area 13,672 square miles shown above as handed over to Survey of India, 2,189 square miles (in Malabar and South Canara) of hill and jungle containing scattered patches of cultivation have been surveyed by the Madras Survey Department in the manner described in paragraph 1 of the report for 1894–95.

APPENDIX No. IV—*continued.*

Outturn and Outlay.

Year.	Area mapped by parties.				
	Cadastral survey.			Cadastral re-survey.	Town survey.
	Scale.			Scale.	Scale.
	16″.	8″ and 4″.	2″ and 1″.	16″.	40″.
1	2	3	4	5	6
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
During 1895–96	2,028	..	..	1,692	25
During 1896–97	2,387	..	..	1,074	32
Up to 31st March 1896	75,125	14,412	43,668	9,778	25
Up to 31st March 1897	77,512	14,412	43,668	10,852	57

Year.	Area published in Central Office.				Quarter sheets atlas of India.	Cost.
	Scale.					
	16″ and 8″.	4″.	1″.	½″.		
7	8	9	10	11	12	
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	RS.
During 1895–96	3,031	12	..	..	..	5,10,194
During 1896–97	4,723	14	3,512	5,312	..	4,56,028
Up to 31st March 1896	83,146	12,627	109,384	96,037	53,940	2,25,40,589
Up to 31st March 1897	87,869	12,641	113,396	101,349	53,940	2,29,96,608

NOTE.—(1) The area published includes area of maps reprinted.

(2) The cost entered in column 12 is exclusive of cost of maintenance of survey records and boundary marks as per particulars shown below :—

	Rs.
1893–94	6,783
1894–95	11,580
1895–96	67,881
1896–97	1,14,001
Total ..	2,00,245

(3) The difference between the area mapped by parties and the area surveyed during 1896-97 is explained below :—

	SQ. MLS.
Area surveyed	..
Area mapped by parties..	2,387
Difference ..	2,387

	SQ. MLS.	
1. Gódávari hill and jungle containing scattered patches of cultivation	80	Surveyed topographically in previous years, but now surveyed cadastrally.
2. Non-Government villages in the Gódávari delta	10	
3. Government villages—islands in the Gódávari rivers	33	
4. Hosúr taluk (hill and jungle containing scattered patches of cultivation).	260	
5. Uttangarai taluk,—Resumed villages of the Bommidi division	19	
6. Inam fields in the Tanjore district ..	359	
7. Chattram villages do.	33	
8. Madura—Periyár wet lands ..	87	
9. Madura—Saptnr zemindari	35	
10. Coimbatore—Inam village of Mavuthampatti	7	
11. Coimbatore—hill and jungle containing scattered patches of cultivation	107	Cadastral survey of hill and jungle (within the area handed over to the Survey of India for topographical survey) containing scattered patches of cultivation.
12. Malabar	514	
13. South Canara	838	
Total ..	2,387	

APPENDIX No. V.

AREA surveyed and remaining for survey in each district up to 31st March 1897.

Initial Survey.

Districts.	Total area of each district.		Area for topographical survey by the Survey of India.	Balance for survey by the Madras Survey Department.	Surveyed by the Madras Survey Department.			Balance.
	Survey area.	Estimated area.			Revenue.	Topographical.	Total.	
1	2	3	4	5	6	7	8	9
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Ganjám	..	8,369	3,252	5,117	1,661	3,456	5,117	Nil.
Vizagapatam	..	17,223	5,931	11,292	507	10,785	11,292	
Gódávari	7,972	..	..	7,972	2,907	5,065	7,972	
Kistna	8,478	..	..	8,478	6,433	2,045	8,478	
Kurnool	7,769	..	..	7,769	4,840	2,929	7,769	
Bellary	6,141	..	..	6,141	5,374	767	6,141	
Anantapur	..	5,312	..	5,312	4,538	774	5,312	
Cuddapah	8,723	..	..	8,723	5,422	3,301	8,723	
Nellore	8,760	..	..	8,760	4,233	4,527	8,760	
North Arcot	7,620	..	..	7,620	2,852	4,768	7,620	
Madras	27	..	..	27	27	..	27	
Chingleput	2,842	..	..	2,842	2,109	733	2,842	
South Arcot	5,218	..	..	5,218	4,667	551	5,218	
Salem	7,529	..	..	7,529	3,658	3,871	7,529	
Trichinopoly	..	4,733	1,100	3,633	2,701	932	3,633	
Tanjore	3,708	..	..	3,708	2,592	1,116	3,708	
Madura	..	8,813	618	8,195	3,124	5,071	8,195	
Tinnevelly	..	5,389	582	4,807	3,080	1,727	4,807	
Coimbatore	7,861	.. ..	..	7,861	5,175	2,686	7,861	
Nilgiris	957	.. ..	..	957	603	354	957	
Malabar	..	5,647	1,097	4,550	3,674	876	4,550	
South Canara	..	3,984	1,092	2,892	2,892	..	2,892	
Total ..	83,605	59,470	13,672	129,403	73,069	56,334	129,403	

Special Survey.—Cadastral Survey.

District.	Total area for survey.		Surveyed up to 31st March 1897.	Balance.	Remarks.
	Survey area.	Estimated area.			
1	2	3	4	5	6
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Ganjám .. Extension of Surla Salt factory.	..	1	..	1	
Gódávari .. Non-Government villages	..	599	599	..	
Gódávari .. Hill villages	..	80	80	..	
Gódávari .. Agency villages in Polavaram and Yellavaram.	..	25	..	25	
Gódávari .. Yadavol Estate	..	37	..	37	
Nellore .. Mamul wet lands	..	2	..	2	
Chingleput .. Koyambedu Shrotriem	..	1	..	1	
Salem .. Hill villages	..	702	321	381	
Trichinopoly. Marungapuri Zemindari	164	..	164	..	
Tanjore .. Chattram villages	..	130	33	97	
Tanjore .. Inam villages	..	536	526	10	
Tanjore .. Revision Survey of Salt factories.	..	1	..	1	
Madura .. Sáptúr zemindari	..	43	35	8	
Madura .. Periyár Wet lands	..	87	87	..	
Madura .. Tevaram Zemindari	..	20	..	20	
Tinnevelly .. Revision Survey of Salt factories.	..	1	..	1	
Coimbatore. Hill villages	..	600	107	493	Hill and jungle containing scattered patches of cultivation.
Malabar	..	1,168	1,168	..	
South Canara	..	1,056	1,056	..	
56. Municipal Towns	..	257	57	200	
Total ..	164	5,346	4,233	1,277	

APPENDIX No. V—*continued.*

Area surveyed and remaining for survey in each district up to 31st March 1897—*cont.*

Special Survey.—Cadastral Re-survey.

District.	Total area for survey.	Surveyed up to 31st March 1897.	Balance.	Remarks.
1	2	3	4	5
	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Gódávari	2,517	2,517	..	
Kistna	3,576	2,983	593	
Kurnool	4,710	294	4,416	
Salem	2,325	2,325	..	
Trichinopoly	2,733	2,733	..	
Total ..	15,861	10,852	5,009	

NOTE.—Malabar District—

	SQ. MLS.	SQ. MLS.
Area for topographical survey by the Survey of India—column 4 of Statement of Initial Survey	1,097	
Deduct area of forests	250	
Balance ..		847
Area topographically surveyed by the Madras Survey Department—column 7 of Statement of Initial Survey	876	
Deduct area topographically surveyed in the Wyn-ad taluk	555	
Balance ..		321
Area of hill and jungle with scattered patches of cultivation to be surveyed in the manner described in paragraph 1 of the report for 1894-95		1,168
		Column 3 of Special Survey Statement.

South Canara District—

Area for topographical survey by the Survey of India	1,092
Deduct area of forests	450
Balance area of hill and jungle with scattered patches of cultivation to be surveyed by the Madras Survey Department in the manner described in paragraph 1 of the report for 1894-95	642
Add area of hill and jungle since found necessary to be surveyed in order to meet the requirements of the Settlement Department	414
	1,056
	Column 3 of Special Survey Statement.

APPENDIX No. VI.

INSTRUCTIONS FOR CONDUCTING SURVEY SCHOOLS, 1896.

1. As all karnams have already gone through the course of instruction at least twice, ten days will usually be sufficient instead of thirteen (see revised course, Karnam's Manual, Appendix No. I, revised in 1894).

2. Every karnam should, if possible, be examined by the Inspecting Officer himself before being classed as good, fair, indifferent or bad. The examination should be in writing and should consist of—

1st.—Plotting, neatly to scale from a sketch not drawn to scale but showing measurements, one survey field containing three sub-divisions.
2nd.—Arithmetical computation by diagonals and offsets of the area of the survey field mentioned above.
3rd.—Scaling the area, with Area Square, of each of the three sub-divisions mentioned above and comparison of the total with the area of the survey field found by arithmetical computation.
4th.—Plotting on the 40-inch scale, a survey field of from 5 to 10 acres and bounded by not less than 5 straight lines, from measurements taken with compass and scale from a lithographed map on the 16-inch or 8-inch scale.
5th.—Six simple questions on the Survey Manual.

Unless the first four tests mentioned above are passed successfully, the karnam should be classed as indifferent or bad. If he passes these four tests satisfactorily and answers correctly more than three of the questions in the fifth test, he can be classed as good; if less than three, fair.

3. The following endorsement should be entered on the back of the certificate which is already in the possession of each karnam :—

Attended the survey school held at
from to
Qualification—

Signature of the officer conducting the school.

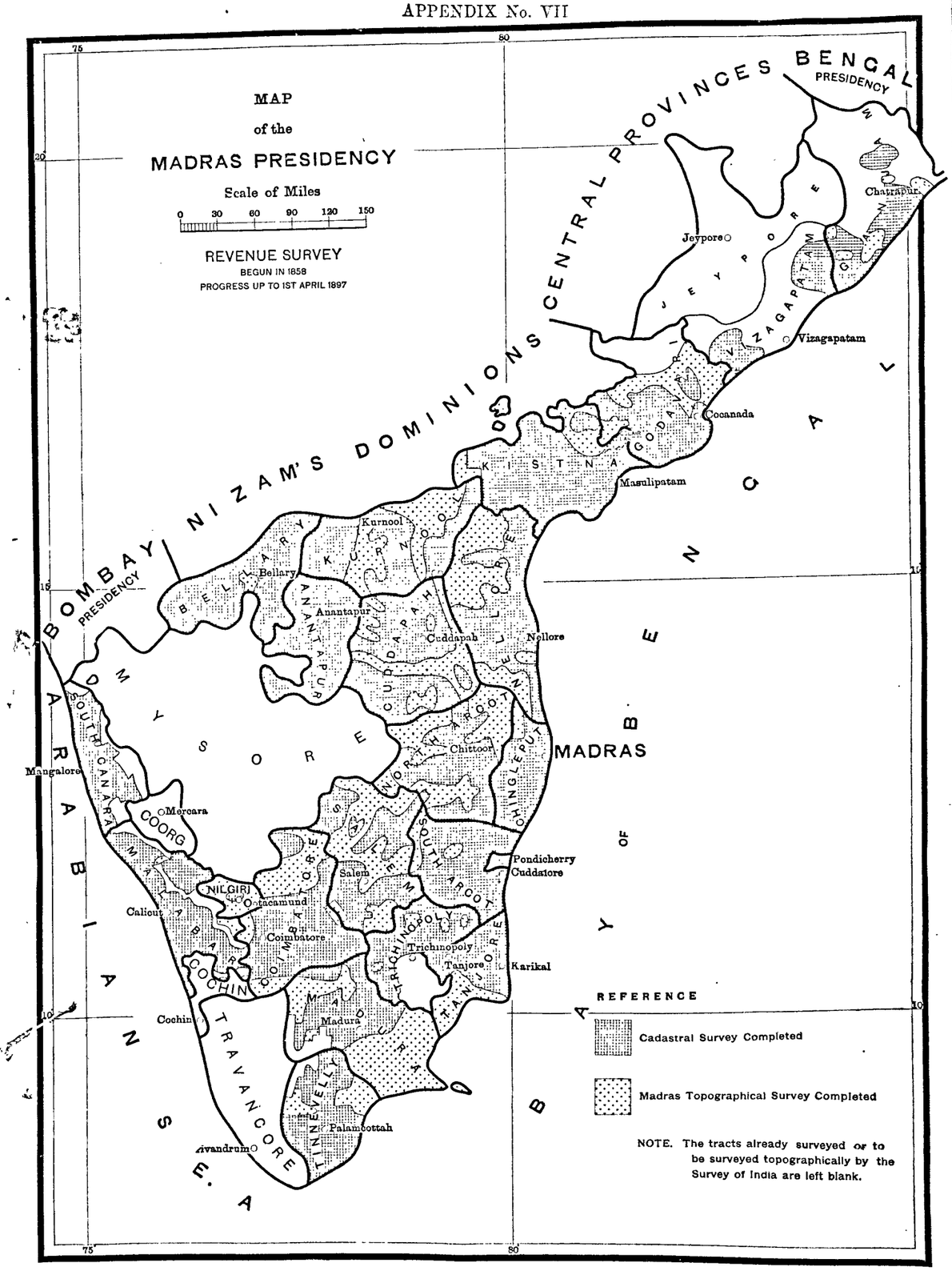
4. A list, in form attached, of all karnams instructed showing qualification of each, state of instruments and Field Measurement Books, should be signed by the Inspecting officer and given to the Tahsildar.

5. While the school is in progress, at least two hours every afternoon should be devoted to plotting of the Village Field Measurement Book so as to bring up arrears as far as possible. The Revenue Inspectors should test the plotting of their karnams and the District Surveyor should retest some of the plotting already examined by the Revenue Inspector.

6. The Revenue Inspector should be held responsible for the punctual attendance of karnams in their respective firkas and they should keep an attendance roll which should be submitted daily to the Tahsildar for initials.

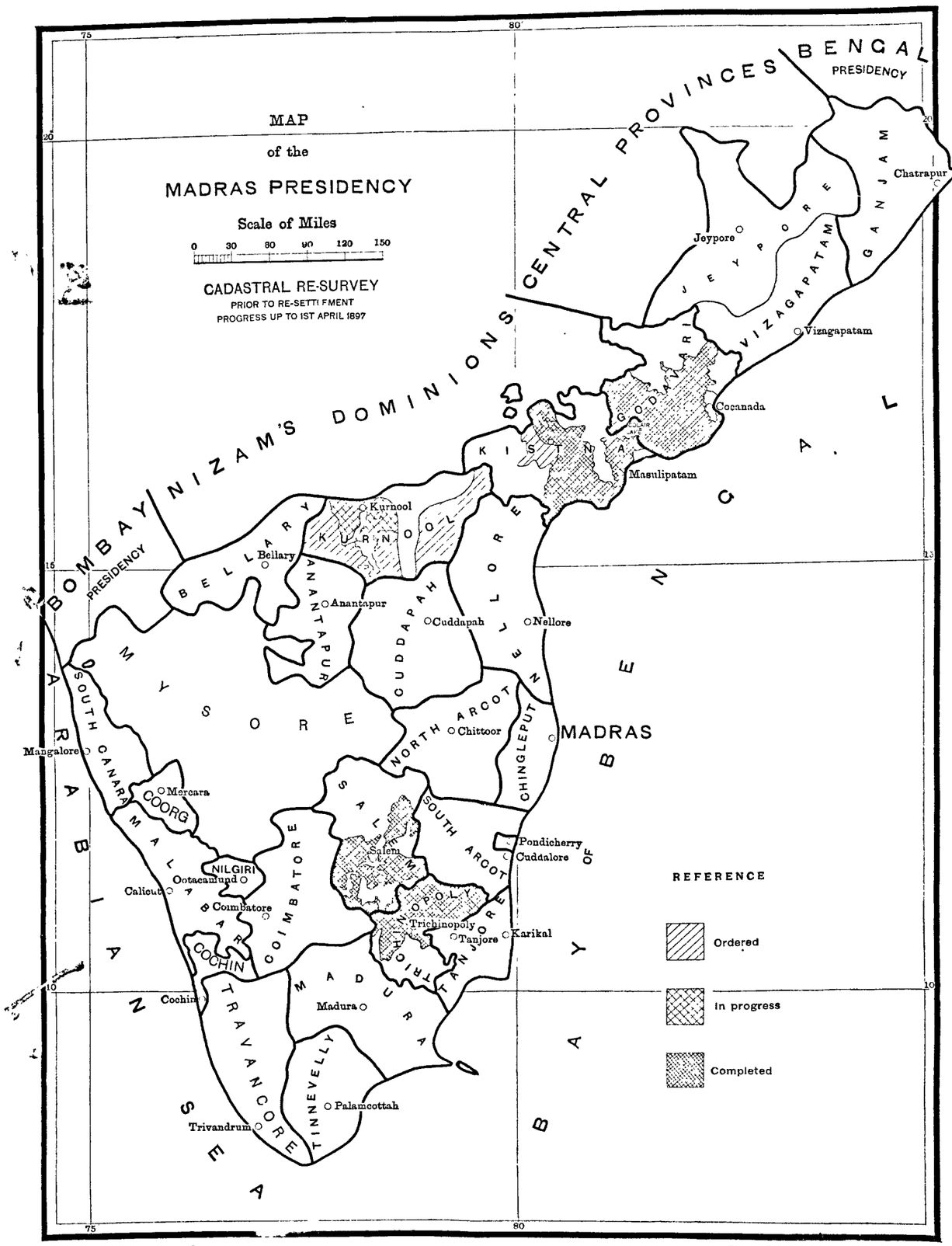
24th July 1896.

APPENDIX No. VII



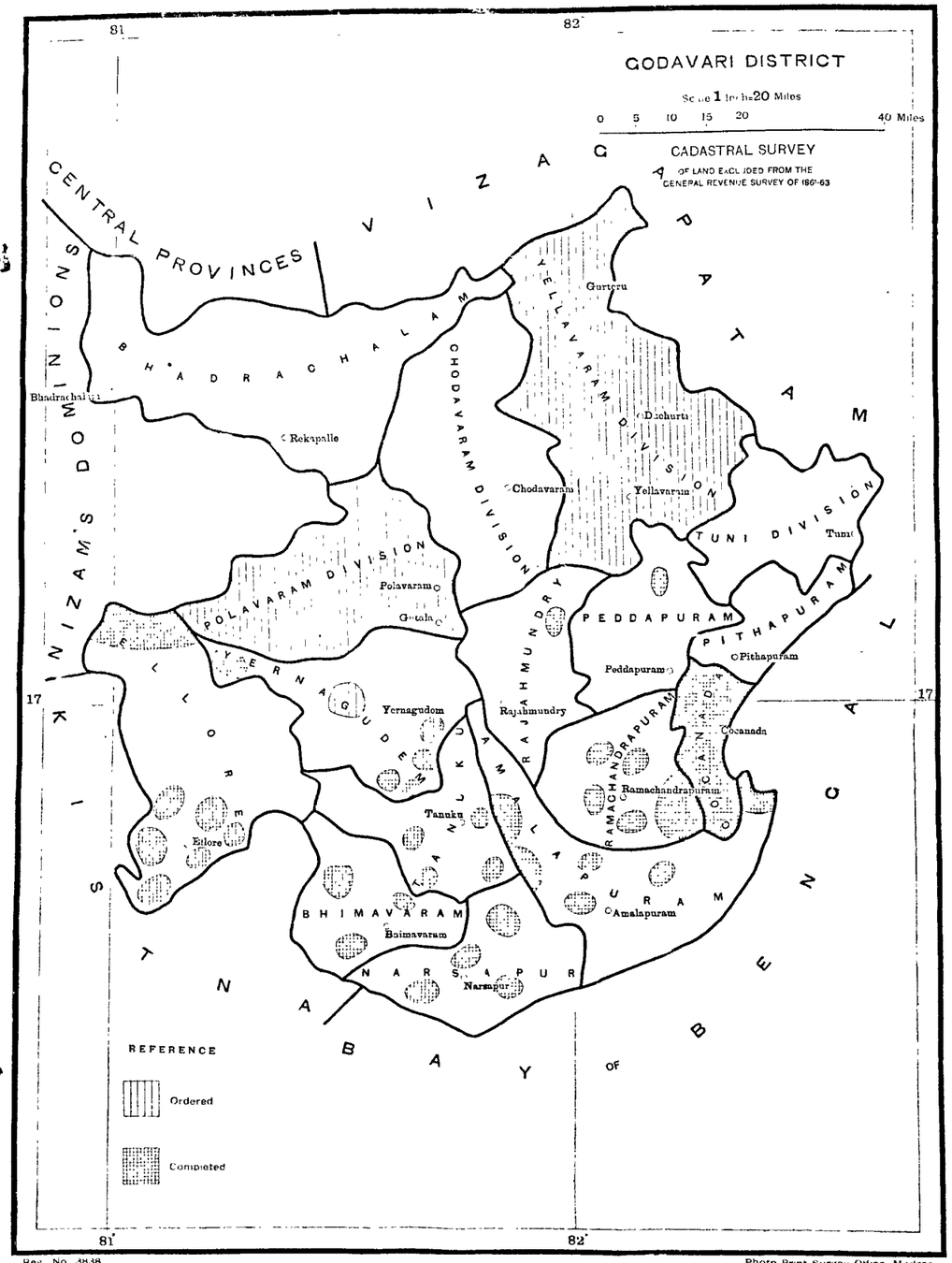
Reg: No.3836
Copies 120

Photo-Print Survey Office, Madras.
1897.



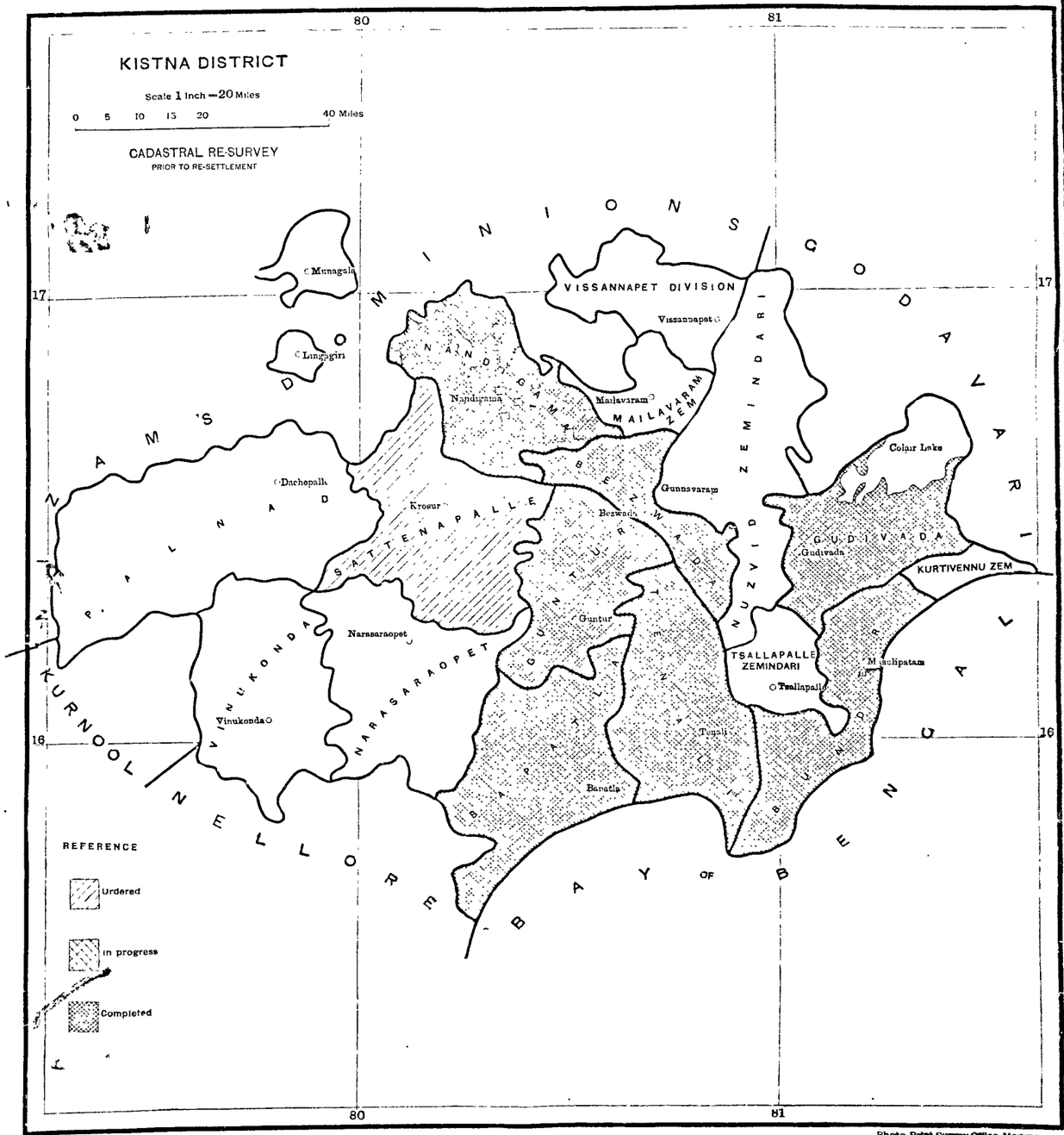
Reg: No. 3837 Copies 120

Photo-Print Survey Office, Madras.
1897.



Reg. No 3838
Copies 120

Photo-Print Survey Office, Madras
1897



Reg: No.3839 Copies 120

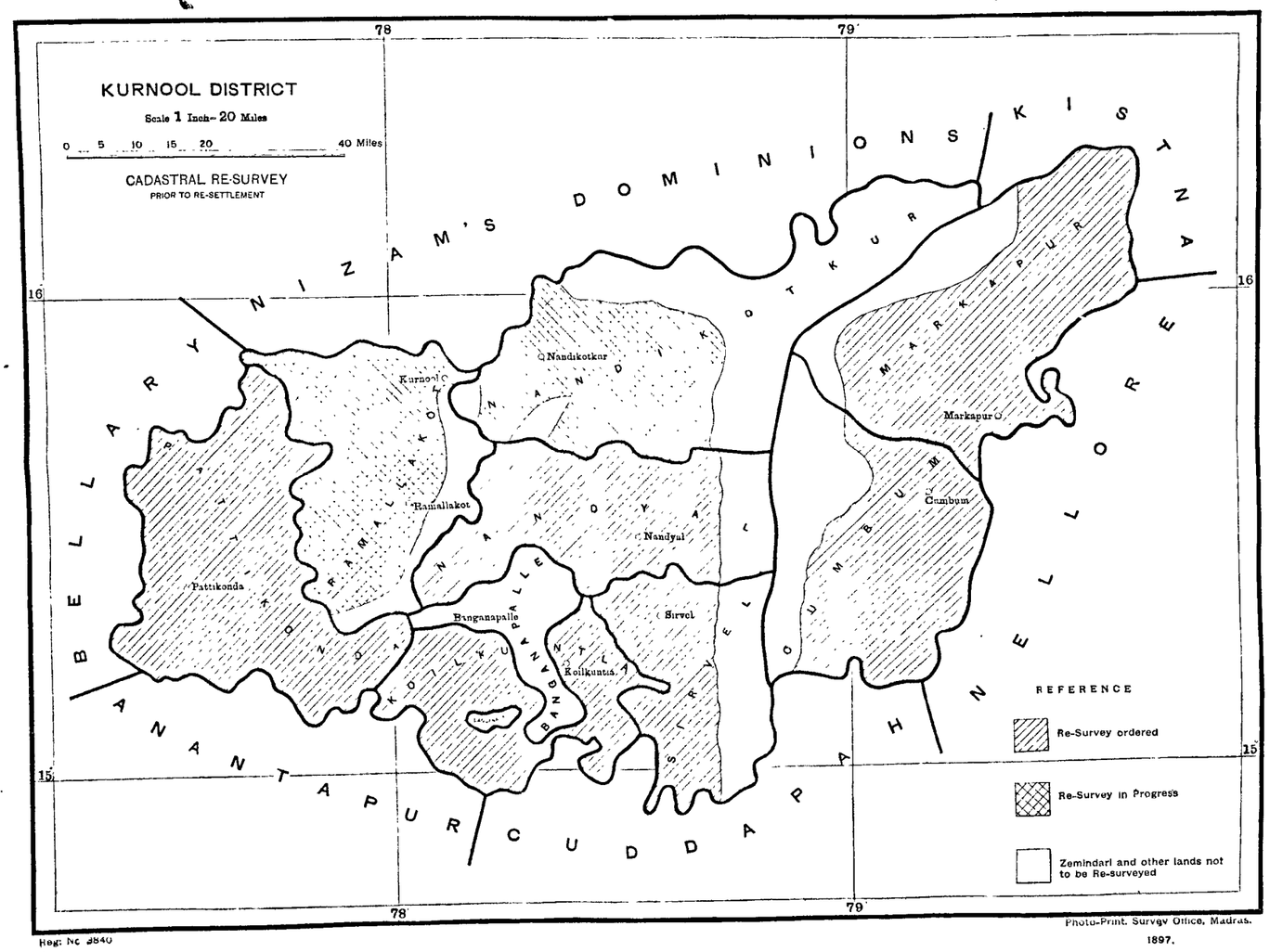
Photo-Print Survey Office, Madras.
1897

KURNOOL DISTRICT

Scale 1 Inch = 20 Miles

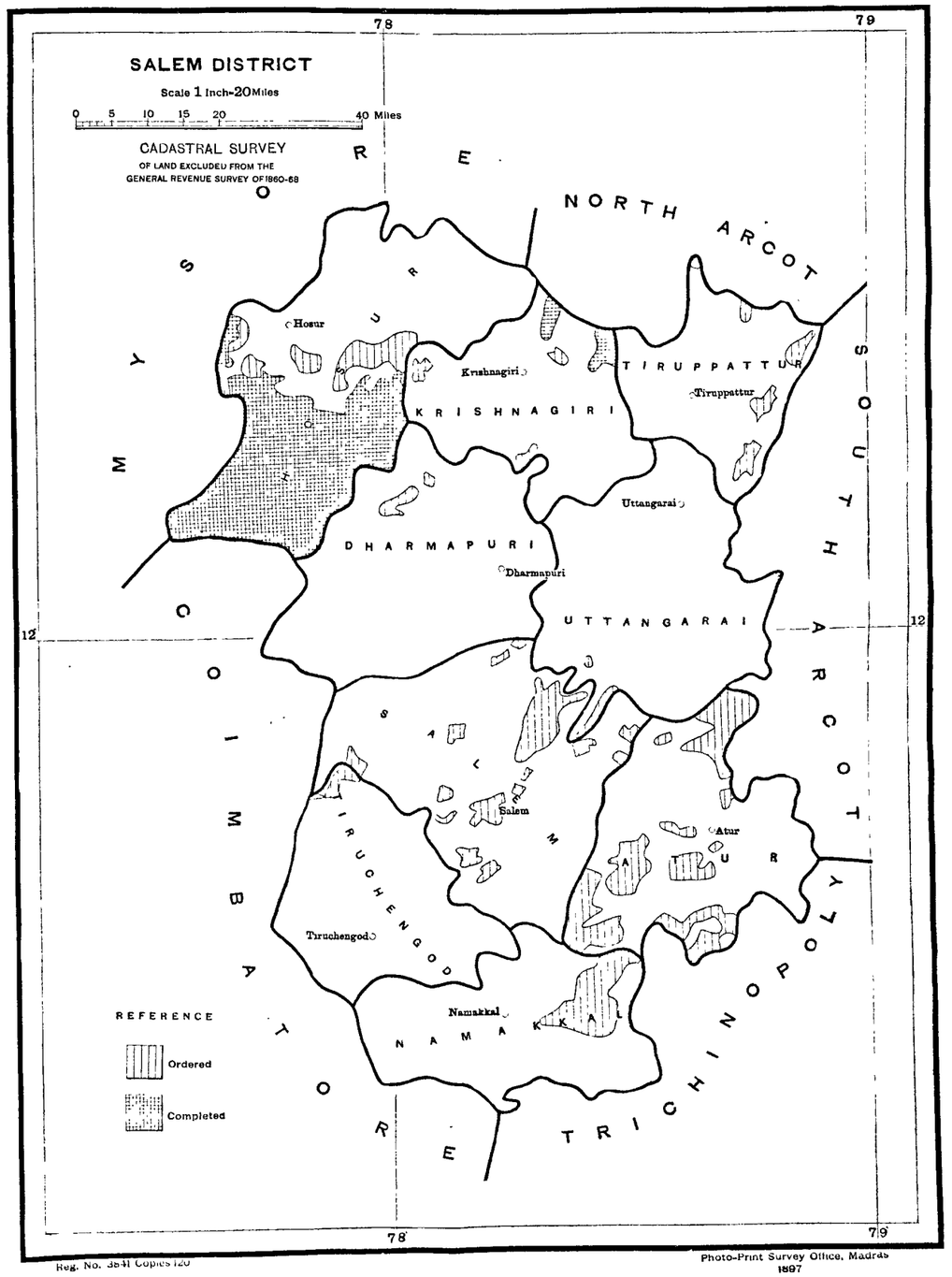
0 5 10 15 20 40 Miles

CADASTRAL RE-SURVEY
PRIOR TO RE-SETTLEMENT



Reg: No 3840
Copies.

Photo-Print. Survey Office, Madras.
1897.



Reg. No. 3841 Copies 120
Photo-Print Survey Office, Madras
1897

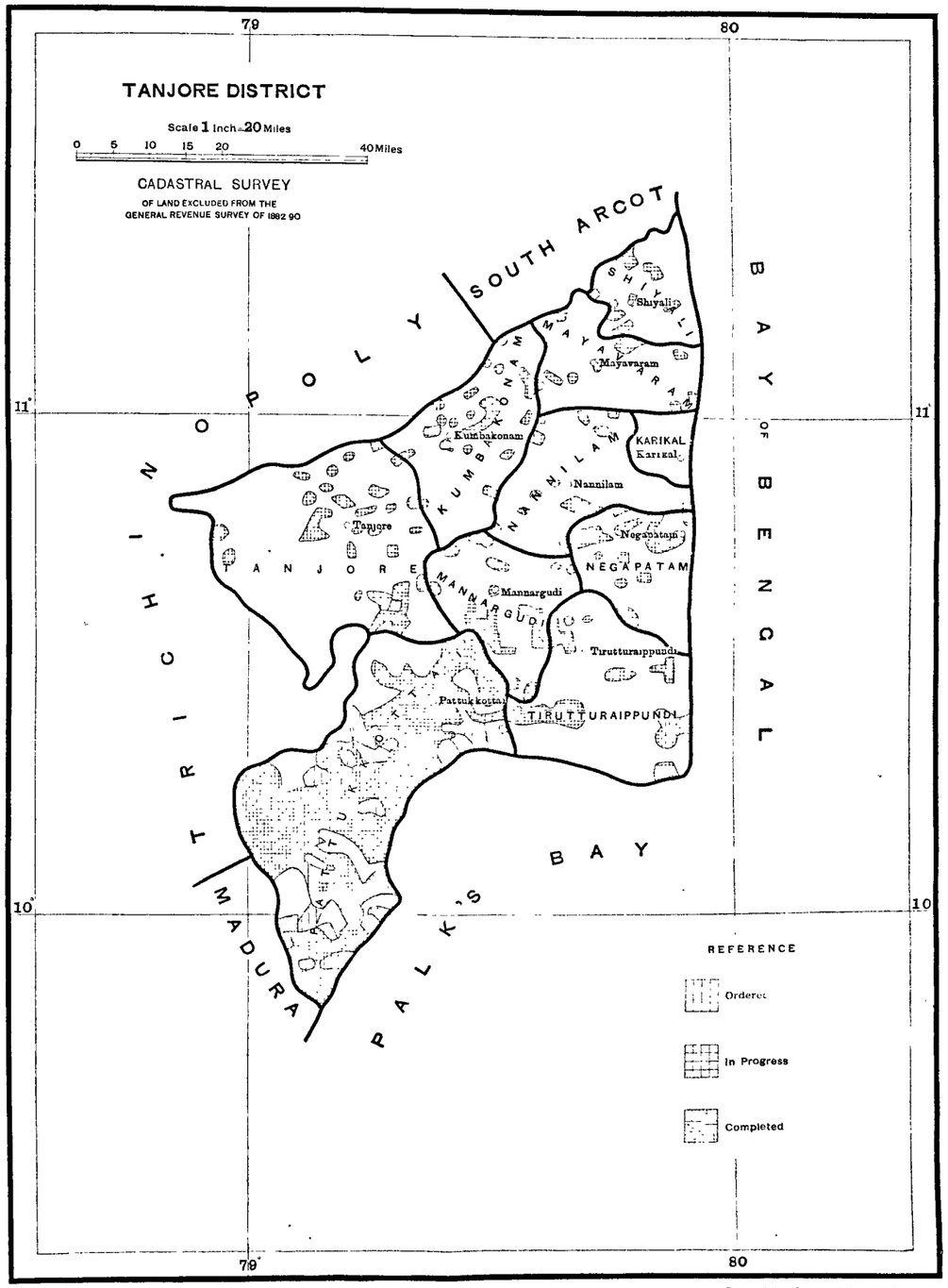
TANJORE DISTRICT

Scale 1 Inch = 20 Miles

0 5 10 15 20 40 Miles

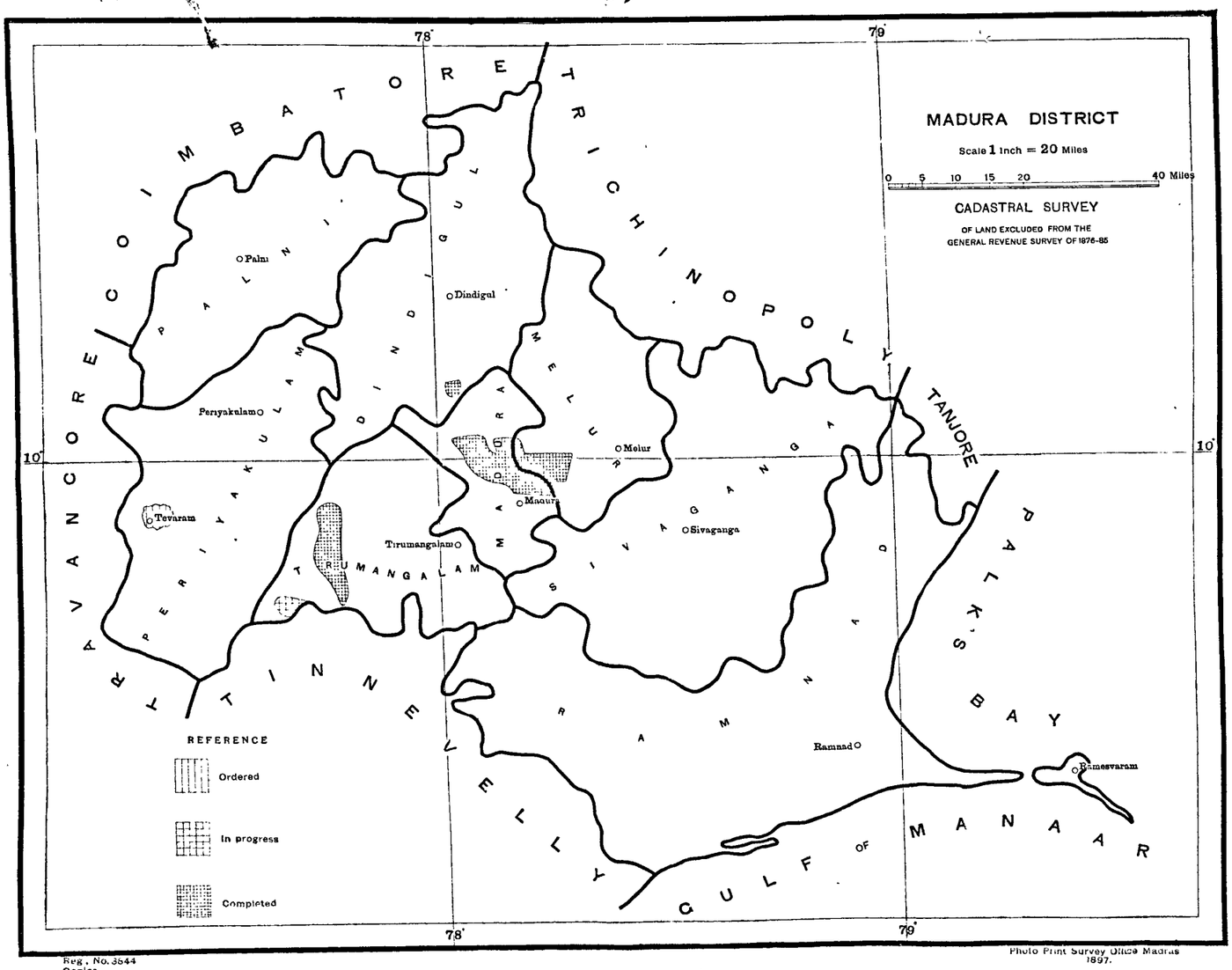
CADASTRAL SURVEY

OF LAND EXCLUDED FROM THE GENERAL REVENUE SURVEY OF 1882 90



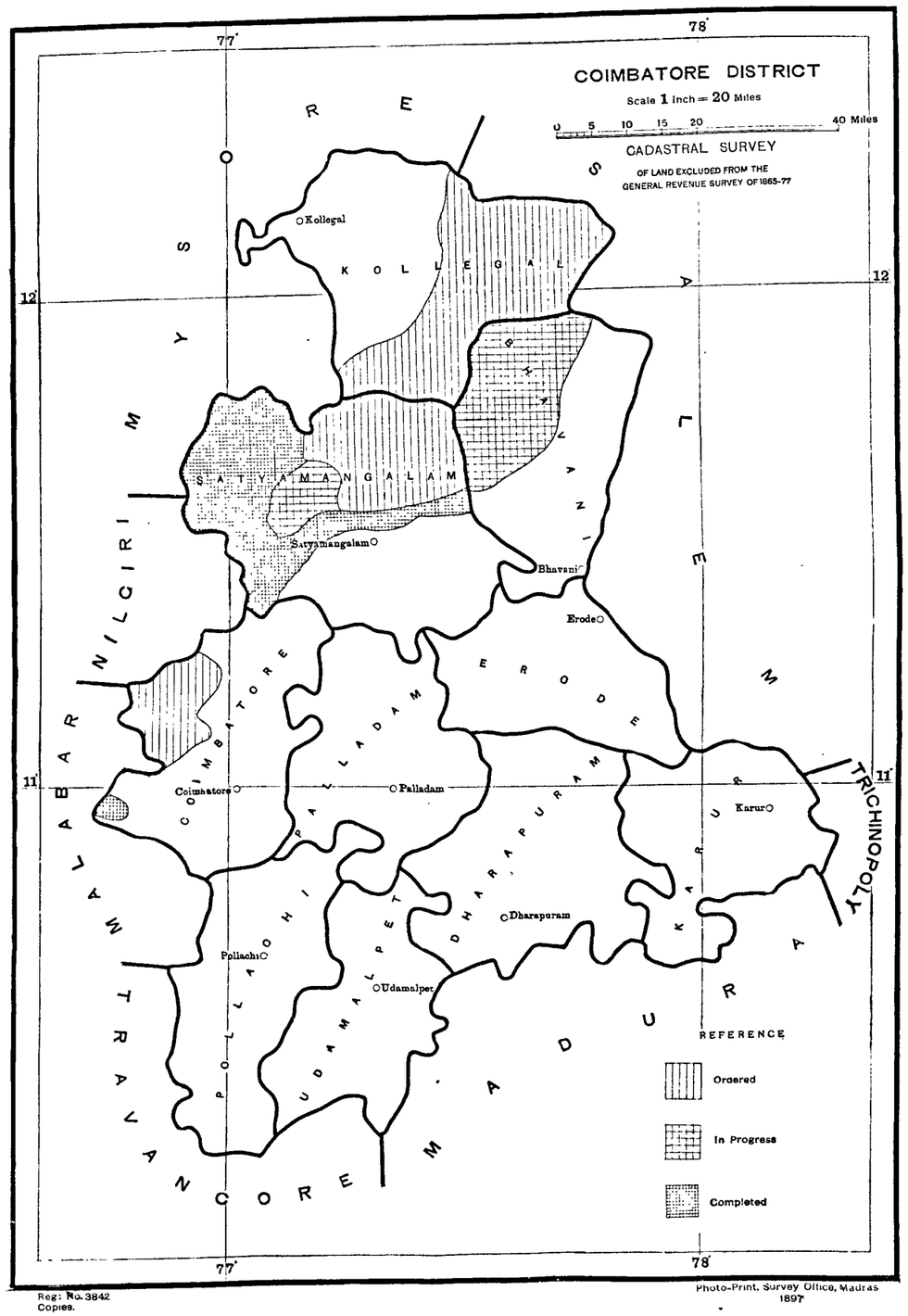
Reg: No. 3843
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1897



Reg. No. 3844
Copies

Photo Print Survey Office Madras
1897.



Reg: No. 3842
Copies.

Photo-Print, Survey Office, Madras
1897

MADRAS SURVEY DEPARTMENT,

ADMINISTRATION REPORT

1896-97.

Read C.No.3207 of '97.

Order No. 542 of 5th October 1897.

The Hon'ble Mr. Cardozo C.I.E.

Shown to Secy. Board of Revenue and returned 1/10/97

1/10/97

1/10/97

With his letter read above, Mr. Cardozo submits his report on the administration of the Madras Survey Dept. for the year 1896-97.

2. It has already been pointed out in the review of the previous year's report that the work which according to the forecast of the Committee of 1887, the Survey Dept. was expected to turn out during nine years ending 1895-96 was completed by the close of the latter year. The ~~bulk~~ work on which the officers of the Dept. have since been engaged, have consequently been all new and consisted mainly of the maintenance of Survey records and fresh surveys and resurveys i.e. initial surveys of tracts not included in the original programme but subsequently ordered to be undertaken for special reasons and resurveys of districts in which the marks originally planted had been partly or wholly obliterated and the records connected therewith not properly maintained. ~~The form of the report has been changed slightly.~~

Surveys & Resurveys

3. In the report under review, the Parties have been redistributed and renumbered with reference to the groups of Districts into which the Presidency has been divided for the purposes of the maintenance of land records and hence it is impossible to institute a detailed

Papers in case.

29/9/97

comparison of the Party outturns during the year under review with those of the previous year. The total outturns of the two years under the several classes of survey are however capable of being compared and these are exhibited in the following statement:-

Class of Survey	Area surveyed. 1895-96 Sq.miles	1896-97. Sq.miles
Ordinary Cadastral Survey. ...	1,095	891
Hill & jungle survey	933	1956
Cadastral Resurvey	1,692	1074
Town survey	25	32
	3,745	3493

The Govt. observes that the outturn of hill and jungle surveys given in the above statement does not represent the area actually surveyed but only the area within which patches of cultivation ~~has been~~ surveyed. From the cost of the operations given in the present report it would also appear that the work for which credit was taken under the above head was ordinarily less difficult than the other classes of Cadastral surveys which the Dept. had been dealing with. Judged therefore by the total outturn and the relative difficulties of the kinds of work undertaken the outturn of work during the year under review must be held inferior to that of 1895-96.

4. ~~Another~~ test of the year's work however lies in a comparison between the work done and the estimate framed by the Supt. in para 6 of the report for the previous year. The estimate in question was framed subject to the proviso that so far as ~~the~~ resurveys ~~were~~ was concerned its realization would depend upon the number of Karnams or village accountants whose services ~~would~~ could be spared by the Revenue Dept., it being anticipated that these village officers ~~would~~ could be able to carry out half of the field measurements. The subjoined statement shows how far the above estimate was realized and also exhibits the work still remaining to be done and the Supt's estimate of outturn for 1897-98.

Class of survey	Districts &c.	Area remaining for survey at the end of 95-96	The outturn estimated by the Supt. during 96-97.	Actuals during 1896-97	Balance at the end of 1896-97	New area ordered to be taken up for survey after 95-96.	Total area remaining to be surveyed under orders already issued.	Estimate for 97-98
1	2	3	4	5	6	7	8	9
		sq.mls.	sq.mls.	sq.mls.	sq.mls	sq.mls	sq.mls	
Ordinary Cadastral Survey	Town survey	232	104	32	200	..	200	60
	Godavari	143 / 105	14	10	..	62	62	60
	Tanjore	501 / 499	501	392	107	..	107	100
	Madura	143 / 130	143	122	8	20	28	20
	Salt factories & misc. in Ganjam, Nellore, Chingleput, Tanjore, Tinnevelly & Coimbatore.	9		7	2	4	6	6
							In Salem	
	Total	890 / 880	762	566	317	86	403	266
Hill and jungle surveys	Malabar	514	514	514	..	..	..	
	S.Canara	428 / 838	424	838	..	..	..	
	Coimbatore	600	300	107	493	..	493	358
	Salem	620 / 660	320	279	381	..	381	381
	Godavari	125 / 1183	125	118	..	..	..	
	Total	2283 / 2730	1683	1856	874	...	874	739
Cadastral Resurveys	Kistna	876	876	780	96	497	593	593
	Kurnool	4710	1406	294	4416		4416	100
	Total	5586	2282	1074	4512	497	5009	159

Note:- The figures in ordinary type in Col. 3 are the approximate figures reported by the Supt. in para 5 of his report for '95-96. Those in bold type are the revised figures calculated from the statements embodied in the present report.

...work during ...

5. The statement in para 4 supra shows that with the exception of the Parties employed in Malabar and South Canara, no Party worked up to the estimate. In Tanjore, it is reported that the survey of the chattram villages was delayed by opposition on the part of landholders; while in Kurnool, owing to agricultural distress and the consequent inability of karnams to take part in the work, no appreciable progress in the resurvey could be made. The differences between the estimates and actuals in other districts are not such as to call for any special remarks. In the matter of town surveys however, the case is different and the Govt. observes that the Supt. has not offered any explanation for the very slow progress which was being made in this branch of survey work, the actuals during the year under review having been only 32 sq. miles as against an estimated outturn of 104 sq. miles. Mr. Cardozo will now be requested to report whether there was any special reason for this small outturn.

6. It is observed that if the Supt,'s estimate of outturn for '97-98 is realised all ordinary cadastral survey and the resurvey of the Kistna district will be completed by the end of that year. Besides this, the Supt. hopes to survey 60 sq. miles in Municipalities and 739 sq. miles of hill and jungle tracts and to resurvey 1000 sq. miles of the Kurnool district. There will then remain 140 sq. miles of Town survey, 135 miles of hill and jungle survey in Coimbatore, and 3416 sq. miles of cadastral re-

resurvey in Kurnool.

7. Central Office. The Govt. is glad to note that the work turned out in the Central office by M.R.Ry. Ramaswami Naidu, Asst. Supt., and the direct personal supervision of Mr. Cardozo was ~~exceptionally~~ good, the area of village maps printed, 4723 sq. miles, having been the highest on record and exceeded the previous year's outturn by 1692 sq. miles. It is also reported that there were no arrears of printing pending in the office at the close of the year With the exception of Mr. Bentley Taylor who was on duty for only about two months, all the officers employed in the Parties spent a ~~reasonable~~ sufficient portion of their time on field inspection and the Supt. visited every district wherein survey was in progress except Godavari and Kistna.

9. ~~The sanctioned grant on account of surveys proper for the year under review was Rs. 4,65,000 and the actual expenditure was Rs. 4,56,028.~~ It is observed that, ~~in furnishing the figures for the previous year, the Supt. has taken those~~ given in that year's Administration Report instead of those in "the Civil Budget Estimate for 1897-98." The latter in which are embodied the final accounts shows the correct actuals of 1895-96 to have been Rs. 5,11,494. ~~The charges incurred in the Central office and by the Parties during the past two years are compared below.~~ Taking these latter figures the comparison with ... as follows:-

Figures taken from the Civil Budget Estimate 1897-98 Cadl also G.O. D

~~In para 4 of his report the Supt has given the combined expenditure upon Cadastral Survey for 1895-96 as Rs. 5,10,196. This figure is comparing the expenditure during the past two years on Survey proper, the Supt. has taken for 1895-96 the figures~~

	1895-96. Rs.	1896-97 Rs.
Central office	1,46,793	1,03,873
Parties	3,64,701	3,52,155
Total.	5,11,494	4,56,028

~~Of the expenditure incurred during the~~ year under review, Rs.66,486 represented miscellaneous charges not debited to outturn as against Rs.74,653 in the previous year. The major portion (Rs.44,805) of the amount first mentioned was spent in connection with the revision of survey and settlement in the Wynaad and supplemental ~~subdivisions in Malabar and South Canara.~~

~~It is also observed that the sum of~~ Rs.13,000 is debited to the Central office on account of miscellaneous maps. The Govt. desires to have fuller information as regards this item and the Supt. will accordingly be requested to submit a further report on the point.

10. In the report for 1895-96, it was estimated that the approximate cost of initial cadastral survey per sq.mile would be about Rs.222 in Malabar, Rs.150 in S.Canara and Rs. 98 in the non-Govt. villages of the Godavari district; and the Govt. in that connection remarked that the standard rate fixed for cadastral survey being Rs.200, if the results approximated to the estimates then made, they would be very satisfactory. The revised figures now furnished show that the rate in Malabar fell from Rs.222 to Rs.217 while those in S.Canara and Godavari rose to Rs.151 and Rs.99 respectively. The Govt. now observes that in Malabar, the reduced rate has been arrived at by taking into account the hill and jungle surveys the cost ~~cost~~ of which according to appendix I of the present report was but Rs.46 per sq.mile and that the Committee of 1887 fixed the standard ~~rate~~ rate at Rs.200 for surveys in "ordinary country". The Committee did not evidently contemplate that credit should be taken for either block or jungle surveys where the work involved was comparatively little and it follows therefore that ~~no proper comparison can be made between~~ the figures now furnished ~~and the Committee's standard rate~~ are misleading and cannot be usefully criticised.

As regards resurveys, the cost per sq. mile estimated last year remained the same in Godavari (i.e. Rs.71), rose from Rs.26 to 31 in Salem, and fell from Rs.84 to 76 in Kistna. Resurvey work having been completed in Godavari and Salem the figures now furnished represent the final rates. In Kurnool the approximate cost estimated by the Supt. is Rs.31--the same as in Salem. As noticed in the review of the previous year's report, the cost of resurveying will vary according to the nature of the country and the attendance of the karnams or village accountants by whose agency the work has to be carried out. The districts of Godavari and Kistna being similarly placed, the Govt. trusts that the rate in the latter will ultimately not be in excess of that in the former. In the case of Town surveys, the rate per sq.mile already spent ranged between Rs.202 and Rs.2895. In future reports, the causes of these variations in the case of completed surveys should be briefly set

forth for the information of Govt.

11. Land Records. The work of preparing field measurement books, the completion of which, the Supt. explains, is a necessary preliminary before any systematic action can be taken in the direction of the maintenance of survey records and boundary marks was considerably retarded in some of the northern districts owing to agricultural distress and the difficulty consequently felt in obtaining the assistance of karnams or village accountants. It is however satisfactory to note that appreciable progress was made in other districts, work in more than one third of the villages of the Presidency having been completed by the close of the year. The Supt. is now more hopeful of successful maintenance in districts recently surveyed but considers that in several others it will be necessary to have a resurvey carried out. ~~The question is now engaging the attention of Govt. in connection with the reorganisation of the survey Dept. and orders thereon will shortly be passed.~~

12. The progress made in the survey training of karnams was satisfactory. The Govt. is pleased to observe that the tests are being gradually applied with greater strictness. Leniency was necessary at first in enforcing these new qualifications but care must now be taken that the acquirements of karnams in this respect are real and not nominal.

The manual of surveying ~~completed~~ compiled by karnam Subbiah does him much credit and

Is it published as a text book? vide p. 10. of the report. 17.9.97

Karnams are not required to possess an knowledge of Surveying and MRC

*The Civil Budget estimate figure. The Supt. gives Rs. 67,881.

Yes, it is not simple enough for the average karnam. The observations, however, are optional subject of the Primary exam. It is possible that it may be made compulsory for karnams. In that case, it may be considered whether that text book should be adopted.

It is called a Manual of Measurement, & I can see nothing about Surveying in it

and the Govt. welcomes the book as indicating the intelligent interest taken by karnams in this important part of their duties.

13. The sanctioned estimate of charges on account of maintenance of Land Records for the current year was Rs. 86,500, while the actuals came up to Rs. 1,14,001 as against Rs. 67,190* in 1895-96. The Supt. ascribes the variation in the figures for the past two years, chiefly to the additional expenditure incurred in the latter year in the preparation by special agency of field measurement books for Malabar Janmies. He should have also explained the cause of the great difference between the budget figures and actuals.

14. Before leaving the subject the Govt. has to point out a slight error in the statement attached to section II of the Report. A reference to the corresponding statement in the previous year's report shows that the figures in the penultimate column cannot be accepted as correct if the general heading under which they are now brought, viz., "Progress of karnams' work up to 31st March 1897" is allowed to stand. The column should therefore apparently be separated as in last year and its heading made clearer.

15. Miscellaneous duties and General Remarks.- The miscellaneous duties entrusted to the Dept. received due attention at the hands of the Supt. and his subordinates and do not call for any special remarks. The question of the consolidation and amendment of the Boundaries Acts of 1866 and 1884 which had been under consideration for a long time was settled in April last when a

new survey Act was passed by the Local Legislative Council. This Act has since received the assent of H.E. the Governor General in Council and has been promulgated as Act IV of 1897. It is hoped that its provisions, while sufficiently safeguarding individual interests will considerably facilitate survey work in the future.

16. The work of the Survey Department is now fast approaching completion. The question of reorganising the Department and re-constituting it as a department for the maintenance & supervision of land records generally is still under the consideration of the Govt: the matter is one of great importance and the thanks of Govt are due to our Surveyors for having so ungrudgingly entrusted his service to assist the Govt with the benefit of his ripe experience at this difficult transitional stage.

25-9-97

27.9.97

Sd. 22-10-97

To

The Supdt: Madras Survey
- Pub: of Rev: (Pro: 2128A)
- Rs: of Rev: (Alr)
- Fin: Deptl:
- Accts General.
- Education Deptl: with ref: to para 12 copy of H. Minute & Appendix. 12C

Encl: No 842A

Copy to the Govt: of India, Rev:
& Agric: Deptl:

Sd. 22-10-97

842

To

The Asst. Under Secretary of State
for India,

Sir,

Dept. 27/10/97.

I am directed to forward for the information ~~information~~ of the Right Hon'ble the Secretary of State for India a copy of the Proceedings of this Govt. No. 842 Rev. dated 5th October 1897 reviewing the report on the Administration of the Madras Survey Dept. for the year 1896-97.

25/9/97

27-9-97

10/12

FORT SAINT GEORGE.

REVENUE (1897) *DEPARTMENT.*

(Copy.)

LETTER to the Assistant Under Secretary of State for India.

No. , dated th October 1897.

FORWARDING a copy of the Proceedings of this Government reviewing the Survey Administration Report for 1896–97.

REVENUE DEPARTMENT.

To

THE ASSISTANT UNDER SECRETARY OF STATE FOR INDIA.

SIR,

I am directed to forward, for the information of the Right Honourable the Secretary of State for India, a copy of the Proceedings of this Government, No. 842, Revenue, dated 5th October 1897, reviewing the Report on the Administration of the Madras Survey Department for the year 1896–97.

I have the honour to be,
Sir,
Your most obedient servant,

(Signed) G. STOKES,
Ag. Secretary to Government.

Exd. Shaik Karim.

10 Copies.

Government {1897} of Madras.

REVENUE.

Recd.	} 1897.	*Enclosures*
Regd.		*Spare copies*

G.O., Nos. 842, 842A, 5th October 1897.

OCTOBER.

Survey Administration Report.

Reviewing the — for 1896-97.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—the following letter from H. O'C. CARDOZO, Esq., C.I.E., Superintendent, Madras Survey, to the Secretary to Government, Revenue Department, dated 20th July 1897, No. 77-G.:—

I have the honour to submit two printed copies of the Administration report of the Survey department for the year 1896–97.

2. I also forward, as directed in G.O., No. 464, dated 30th May 1893, two copies of the report ready packed for transmission to the Secretary of State. An inner cover is addressed to the Secretary at the India Office in the Department of Revenue and Statistics in accordance with paragraph 4 of the Secretary of State's Despatch printed with G.O., No. 57, Public, dated 22nd January 1891.

REPORT ON THE OPERATIONS OF THE MADRAS SURVEY DEPARTMENT DURING 1896–97.

During the year, the department remained under the direction of Mr. Cardozo, Superintendent of Survey, upon whom Her Majesty was pleased to confer the Companionship of the Indian Empire on the 20th May 1896.

The work on which the department was employed was—

1. Cadastral survey for settlement, of Government lands excluded from former surveys and of lands not the property of Government, the survey of which is required for special purposes, *e.g.*, to fix the amount of water-rate, village-cess, &c.
2. Cadastral re-survey of Government lands prior to re-settlement.
3. Cadastral and detailed topographical survey of towns for municipal purposes.
4. Maintenance of survey records and boundary marks.

The report is divided into three sections. The first section deals with surveys, the second with maintenance of survey records and boundary marks and the third with general remarks.

I.—REPORT ON SURVEYS.

Survey work in seven districts and re-survey work in two districts was in progress during the year as shown below:—

Survey Division.	District.	Outturn during 1896–97. Cadastral surveys.	Cadastral re-surveys.	Town surveys.	Total.
1	2	3	4	5	6
		SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
I	Ganjám	..	..	..	..
	Vizagapatam	..	..	..	..
	Gódávari	128	..	..	128
	Kistna	..	780	..	780
II	Kurnool	..	294	..	294
	Bellary	..	..	..	..
	Anantapur	..	..	..	..
III	Cuddapah	..	..	..	..
	Nellore	..	..	..	..
	North Arcot	..	..	..	..

Survey Division.	District.	Outturn during 1896–97. Cadastral surveys.	Cadastral re-surveys.	Town surveys.	Total.
1	2	3	4	5	6
		SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
IV	Madras	..	..	13	13
	Chingleput	..	..	3	3
	South Arcot	..	..	..	..
	Salem	279	..	2	281
	Trichinopoly	..	..	6	6
V	Tanjore	392	..	..	392
	Madura	122	..	4	126
	Tinnevelly	..	..	..	..
VI	Coimbatore	114	..	..	114
	Nilgiris	..	..	4	4
	Malabar	514	..	..	514
	South Canara	838	..	..	838
	Total outturn, 1896-97 ..	2,387	1,074	32	3,493
	Outturn of previous year ..	2,028	1,692	25	3,745

The budget grant was Rs. 5,71,500—G.O., No. 736, Revenue, dated 21st December 1896.

The expenditure was Rs. 5,70,029.

As in former reports, this expenditure is divided under three main heads as below, and, to facilitate comparison, the figures for the previous year are also given:—

Main head.	Expenditure, 1895-96.	Expenditure, 1896-97.
	RS.	RS.
1. Survey expenditure chargeable to outturn ...	4,35,541	3,89,542
2. Survey expenditure not chargeable to outturn...	74,653	66,486
3. Maintenance of survey records and boundary marks	67,881	1,14,001
Total ...	5,78,075	5,70,029

The large increase under head of Maintenance of survey records and boundary marks is explained in section II of the report.

The survey expenditure chargeable to outturn is the cost of cadastral surveys, re-surveys and town surveys.

The sum spent in each district is shown in the following statement:—

Survey Division	District.	Cadastral surveys.	Cadastral re-surveys.	Town surveys.	Publication and share of Central Office.	Total.
1	2	3	4	5	6	7
		RS.	RS.	RS.	RS.	RS.
I	Ganjám	..	..	..	..	..
	Vizagapatam	..	..	..	..	..
	Gódávari	24,904	11,510	..	..	36,414
	Kistna	..	32,575	..	..	32,575
II	Kurnool	..	9,495	..	..	9,495
	Bellary	..	..	..	..	..
	Anantapur	..	..	..	..	..
III	Cuddapah	..	..	..	..	..
	Nellore	..	..	..	..	..
	North Arcot	..	..	2,945	..	2,945
	Madras	..	..	35,962	..	35,962
IV	Chingleput	..	..	8,852	..	8,852
	South Arcot	..	..	..	..	..
	Salem	5,426	22,408	6,846	..	34,680
	Trichinopoly	..	..	7,303	..	7,303
V	Tanjore	8,668	..	1,554	..	10,222
	Madura	14,939	..	12,467	..	27,406
	Tinnevelly	..	..	..	..	..
VI	Coimbatore	8,786	..	..	..	8,786
	Nilgiris	..	..	13,038	..	13,038
	Malabar	25,236	..	..	..	25,236
	South Canara	49,658	..	..	..	49,658
Central Office.	Publication, &c.	..	..	..	86,970	86,970
	Total ..	1,37,617	75,988	88,967	86,970	3,89,542

Details for the expenditure not chargeable to outturn are shown below:—

Survey Division.	District.	Miscellaneous surveys.	
		Nature of work.	Expenditure.
1	2	3	4
			Rs.
I	Ganjám ..	....	..
	Vizagapatam	....	..
	Gódávari	Gódávari-Hyderabad boundary ..	725
	Kistna ..	Kistna-Hyderabad boundary	238
II	Kurnool ..	....	..
	Bellary ..		
	Anantapur		
III	Cuddapah	....	..
	Nellore ..		
	North Arcot		
	Madras ..		
IV	Chingleput	....	..
	South Arcot		
	Salem ..		
	Trichinopoly		
V	Tanjore ..	....	..
	Madura ..		
	Tinnevelly		
VI	Coimbatore	....	..
	Nilgiris ..	....	..
	Malabar	Wynaad revision and Malabar supplemental sub-division.	29,574
	South Canara ..	Supplemental sub-divisions and Hill sketching.	15,231
	Central Office ..	....	13,800
	Exchange compensation allowance ..	....	6,918
		Total ..	66,486

2. Outturn of each Division.—Appendix No. I to this report gives full particulars regarding outturn and expenditure for each item of survey work.

The following is a brief summary for each district under survey with such remarks as appear necessary.

No. I Survey Division.

Officer in charge—Mr. Hasted, Acting Deputy Superintendent.

Gódávari.—One section under Mr. Spurling, Deputy Collector, working under the orders of the Collector, was employed on the cadastral survey of non-Government villages in nine taluks of the delta, of rented villages in four upland taluks, and of cultivated islands in the Gódávari belonging to five different taluks.

The work being scattered over a very large area, supervision was difficult.

The outturn was 128 square miles and the expenditure was Rs. 37,139.

Kistna.—One section under Mr. Seshacharlu, Deputy Collector, working under the orders of the Collector, was employed on cadastral re-survey by karnams in two taluks and on the demarcation of the boundary between the Kistna district and the Nizam's Dominions.

The outturn was 780 square miles and the expenditure was Rs. 32,813.

The arrears of settlement of field boundary disputes reported last year have been considerably reduced. 266 disputes were in arrears at the beginning of the year. 242 more disputes were reported during the year and 382 disputes were settled during the year, leaving 126 disputes in arrears at the end of the year. Arrangements have been made to secure settlement of all these by the end of August 1897.

No. II Survey Division.

Officer in charge—Mr. Martin, Deputy Superintendent.

Kurnool.—One section under Mr. Subba Row, Deputy Collector, working under the orders of the Collector, was employed on cadastral re-survey by karnams in two taluks.

Work was very seriously delayed by agricultural distress.

The outturn was 294 square miles and the expenditure was Rs. 9,495.

No. III Survey Division.

Officer in charge—Mr. Venkataramaya Pantulu, Assistant Superintendent—No surveys in progress.

No. IV Survey Division.

Officers in charge—Mr. Thornhill, Deputy Superintendent, for six months and Mr. Narayana Aiyar, Assistant Superintendent, for six months.

Salem.—One section under Mr. Narayana Aiyar was employed on the cadastral survey of part of the Hosur taluk which was excluded from the revenue survey of 1860—68.

The outturn was 279 square miles and the expenditure was Rs. 27,834.

The Collector remarks that "the survey work has gone on with much smoothness during the year. This was chiefly due to the tact of M.R.Ry. P. R. Narayana Aiyar Avargal."

No. V Survey Division.

Officer in charge—Mr. MacHutchin, Acting Deputy Superintendent.

Tanjore.—One section under Mr. Raghavachariar, Deputy Collector, working under the orders of the Collector, was employed on the cadastral survey of inam lands to determine the amount of village-cess (G.O., No. 152, Revenue, dated 23rd February 1894) and of chattram villages for the District Board (G.O., Mis. No. 801, dated 20th February 1895).

The outturn was 392 square miles and the expenditure was Rs. 8,668.

The survey of chattram villages was much delayed by opposition on the part of land-holders.

Madura.—One section was employed in three taluks under the personal supervision of the Survey Divisional officer, Mr. MacHutchin, on the cadastral survey of non-Government villages irrigated by the new Periyár canals and on the cadastral survey for the Court of Wards of the Saptur zemindari. The outturn was 122 square miles and the expenditure was Rs. 14,939.

No. VI Survey Division.

Officer in charge—Mr. Greene, Deputy Superintendent.

Coimbatore.—One section was employed under Mr. Bateman, Assistant Superintendent, in two taluks on the cadastral survey of lands excluded from the revenue survey of 1865—77 and of one inam village for the Perur Devastanam committee.

The outturn was 114 square miles and the expenditure was Rs. 8,786.

Malabar.—The work performed was the cadastral survey of cultivation scattered over large tracts of hill and jungle.

The outturn was 514 square miles and the expenditure was Rs. 54,810.

As reported last year, surveyors must remain in this district until the settlement is finished, in order to determine the janmam boundaries and record the changes in occupation which in this district are exceptionally numerous and complicated.

The preparation of field measurement books showing sub-divisions up to date to enable the janmis to register their titles in accordance with G.O., No. 1912, Revenue, dated 18th May 1896, is complete in Palghat and Walawanad taluks. Ponnáni and Wynaad are well advanced and Mr. Greene hopes to finish this work in 1897–98.

South Canara.—One section was employed under Mr. Taylor for two months and under Mr. Gompertz for ten months on the cadastral survey of cultivation scattered over large tracts of hill and jungle.

At the beginning of the year, it was estimated that 424 square miles of hill and jungle required to be surveyed. It was subsequently found that in order to meet the requirements of the Settlement Department, survey had to be extended to an area of 838 square miles. This was completed during the year. The expenditure was Rs. 64,889.

As in Malabar, surveyors must remain in this district until the settlement is complete.

Town Surveys.

The survey of seventeen municipal towns progressed under the supervision of three officers—

Mr. Greene. | Mr. Hatchell.

Mr. Srinivasa Aiyangar.

The following statement shows the outturn and expenditure of these officers:—

Name of town.	Outturn during 1896-97.	Expenditure during 1896-97.	Remarks.
1	2	3	4
	sq. mls.	Rs.	
Mr. Greene.			
1. Ootacamund	1	7,805	Survey completed.
2. Coonoor	3	5,233	do. in progress.
Mr. Hatchell.			
3. Gudiyattam	..	2,028	Survey in progress.
4. Vellore	..	663	Do.
5. Walajapet	..	254	Do.
6. Madras	13	35,962	Survey completed.
7. Conjeeveram	3	8,852	Do.
8. Vaniyambadi	2	5,160	Survey in progress.
9. Salem	..	1,341	Do.
10. Tirupattúr	..	495	Do.
11. Srirangam	6	4,497	Do.
12. Trichinopoly	..	2,806	Do.
13. Palni	2	4,351	Survey completed.
14. Periyakulam	1	4,058	Do.
15. Máyavaram	..	1,135	Survey in progress.
16. Tanjore	..	419	Do.
Mr. Srinivasa Aiyangar.			
17. Madura	1	4,058	Survey in progress.
Total ..	32	88,967	

Central Office.

Mr. Cook, who had held charge for six years, remained for about a month and went home on furlough early in May 1896.

The office has since been in charge of Mr. Ramaswamy Naidu, Assistant Superintendent, working under the direct personal supervision of the Superintendent. Although the work has increased, the establishment has been reduced as far as practicable without impairing efficiency.

The area of village maps printed during the year was 4,723 square miles. This is the largest outturn yet recorded and exceeds that of the previous year by 1,692 square miles.

There are no arrears of printing.

The following statement shows the total outturn of the photo-zincographic office during the year compared with that of the previous year:—

Year.	Number of copies printed.				Total number of pulls or impressions.	Remarks.
	Zincographs.		Photo-prints.	Total.		
	Village maps.	Miscellaneous maps and diagrams.				
1	2	3	4	5	6	7
1895-96	49,314	214,316	71,676	335,306	203,211	Column 6 shows the actual amount of work.
1896-97	55,594	286,947	83,497	426,038	231,636	

One district map (Anantapur) and seven taluk maps were published—see appendix No. II.

The total cost of the office, including pay of the Superintendent, was Rs. 1,03,873. This is less than in any previous year since 1882-83, and Rs. 33,756 less than in 1895-96.

3. Field inspection by officers.—The number of days on which gazetted officers employed in the field were absent from their head-quarters is shown below, halts at hill stations being excluded:—

No.	Name.	Number of months on duty.	Number of days absent from head-quarters.		Remarks.
			Total.	Average monthly.	
1	2	3	4	5	6
1	Mr. Thornhill	6	153	25	
2	,, Martin	12	180	15	
3	,, Greene	12	221	18	
4	,, Taylor	2	4	2	On furlough from 28th July 1896.
5	,, Hatchell	12	165	14	
6	,, MacHutchin	11	151	14	See footnote.
7	,, Hasted	11	247	22	
8	,, Venkataramaya Pantulu ..	12	213	18	
9	,, Thompson	12	183	15	
10	,, Narayana Aiyar	12	255	21	
11	,, Gompertz	12	185	15	
12	,, Bateman	12	239	20	
13	,, Spurling	12	180	15	
14	,, Srinivasa Aiyangar	10	49	5	See footnote.
15	,, Alley	6	106	18	
16	,, Raghavachariyar	11	232	21	
17	,, Seshacharlu	9	169	19	

Note.—Messrs. Hatchell and Srinivasa Aiyangar were constantly employed on field inspection at their head-quarters.

Every district under survey, except Kistna and Gódávari, was visited at least once by the Superintendent during the year. Kistna and Gódávari will be inspected in August 1897.

4. Tests of accuracy.—Theodolite work being complete as reported last year, no further comparison between Revenue Survey and Trigonometrical Survey distances was possible.

Field measurement was checked by re-measurement. The standard is 7 linear miles of re-measurement per square mile of field survey. The amount secured during the year was 7 miles.

The following statement shows the result of inspection by gazetted officers of cadastral surveys and re-surveys and of town surveys:—

Number of inspecting officers		17
Number of villages inspected		789
Number of Surveyors inspected		860
Total number of inspections		909
Quality of work inspected.	Good	294
	Fair	345
	Indifferent	181
	Bad	89

Work found to be indifferent or bad is revised.

5. Area remaining for survey.—The following statement shows in detail the area for survey in each district:—

STATEMENT showing the different items of work which have been ordered by Government but are not yet finished.

Survey Division.	District.	Nature of survey.	Total area for survey.	Area surveyed up to 1st April 1897.		Area remaining for survey.		Probable year of completion.	Government Order sanctioning the survey.	
				Ordinary cadastral survey.	Hill and jungle with scattered patches of cultivation.	Ordinary cadastral survey.	Hill and jungle with scattered patches of cultivation.		Number.	Date.
1	2	3	4	5	6	7	8	9	10	11
			SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.			
I	Ganjám	Cadastral survey of extension of Surla salt factory.	1	..	..	1	..	1897	1858, Miscellaneous.	6th April 1897.
		Cadastral survey of Polavaram and Yellavaram divisions.	25	..	..	25	..	1897	2007, Miscellaneous.	17th June 1897.
	Gódávari	Cadastral survey of Yadavol estate ..	87	..	..	87	..	1897	3078, Miscellaneous.	21st January 1897.
		Bhadráchalam	700 Linear miles.	..	..	700 Linear miles.	..	1898	1011, Miscellaneous.	8th March 1895.
II	Kistna	Cadastral re-survey	1,373	780	..	693	..	1898	15, Revenue; 235, Revenue.	16th January 1896. 3rd April 1897.
		Kistna-Hyderabad boundary ..	..	..	..	..	..	1898	1084, Miscellaneous.	29th April 1896.
III	Kurnool	Cadastral re-survey	4,710	294	..	4,416	..	1897	839, Revenue.	30th December 1896.
	Nellore	Cadastral survey of manuel wet land in Venkatagiri zemindari.	2	..	..	2	..	1902	1416, Miscellaneous.	6th April 1897.
	Chingleput	Koyambedu shrotriem cadastral survey ..	1	..	..	1	..	1897	1051, Miscellaneous.	6th April 1897.
IV	Salem	Cadastral survey	702	321	..	381	..	1898	840, Revenue.	28th November 1894.
		Chattram villages, cadastral survey ..	130	33	..	97	..	1897	801, Miscellaneous.	20th February 1895.
	Tanjore	Inam villages, block survey	536	526	..	10	..	1897	152, Revenue.	23rd February 1894.
		Revision survey of salt factories ..	1	..	..	1	..	1897	615, Revenue.	Do.
V		Sáptúr zemindari	43	35	..	8	..	1897	401, Revenue.	26th June 1895.
	Madura	Tevaram zemindari	20	..	..	20	..	1898	2407 Miscellaneous.	11th June 1897.
		Revision survey of salt factories	1	..	..	1	..	1897	613, Revenue.	17th July 1894.
	Tinnevelly	Cadastral survey	600	107	..	493	..	1898	124, Revenue.	15th February 1894.
VI	Coimbatore	Supplemental sub-division for Settlement Department.	..	..	..	..	..	1898	884, Revenue.	2nd September 1896.
	Malabar	Do.	..	..	..	..	..	1898	894, Revenue.	Do.
	South Canara	Town surveys	257	67	..	200	..	1899	903, Financial.	29th October 1894.
	56. Municipal towns ..									

6. ESTIMATE FOR 1897–98.—The following statement shows the area which is estimated to be completed during the year 1897–98, provided survey work is not stopped owing to agricultural distress :—

Survey Division.	District.	Cadastral survey by Surveyors.		Cadastral re-survey by karnams.	Town surveys.	Survey of salt factories.
		Ordinary.	Special (hill and jungle).			
1	2	3	4	5	6	7
		SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
I	Ganjám ..	..	..	..	..	1
	Gódávari ..	62	..	..	..	..
	Kistna ..	..	..	593	..	..
II	Kurnool ..	..	..	1,000	..	..
III	Nellore ..	2	..	..	..	..
	North Arcot ..	..	..	..	6	..
	Chingleput ..	1	..	..	..	..
IV	Salem ..	..	381	..	6	..
	Trichinopoly ..	..	..	..	10	..
	Tanjore ..	107	..	..	22	1
V	Madura ..	28	..	..	8	..
	Tinnevelly ..	..	..	..	4	1
	Coimbatore ..	..	358	..	..	..
VI	Nilgiris ..	..	..	..	4	..
	Total ..	200	739	1,593	60	3

7. COST OF SURVEY WORK TO GOVERNMENT.—The total cost of the survey from its commencement in 1858 up to 1st April 1897 has been—

	RS.
(1) Survey parties	1,96,18,527
(2) Central office	33,78,081
(3) Maintenance of survey records and boundary marks ...	2,00,245
Total ...	2,31,96,853

Details of expenditure under the third head, Maintenance, are given separately in section II of this report.

The expenditure under the first and second heads is sub-divided as below :—

Expenditure on	Cadastral survey.	Cadastral re-survey.	Town survey.	Topographical survey.	Publication.	Total.
1	2	3	4	5	6	7
	RS.	RS.	RS.	RS.	RS.	RS.
I. Completed area	1,83,20,650	7,29,524	1,76,966	23,63,469	6,21,885	2,22,12,494
II. Incomplete area	..	..	..	..	906	906
III. Miscellaneous work which cannot be expressed in area ..	3,51,038	..	..	34,955	3,97,215	7,83,208
Total ..	1,86,71,688	7,29,524	1,76,966	23,98,424	10,20,006	2,29,96,608

Details under the three heads—Completed area, Incomplete area, and Miscellaneous work which cannot be expressed in area—are shown in appendix No. III to this report.

Cadastral Survey.

Particulars.		Gódávari delta non-Government villages.	Gódávari rented villages.	Salem.	Coimbatore.	Malabar (excluding area cadastrally surveyed in Wynaad, 266 square miles).	South Canara.
1		2	3	4	5	6	7
Area surveyed up to date	Sq. mls.	599	80	321	107	4,576	3,560
Total expenditure up to date	Rs.	59,275	11,020	7,771	8,364	9,91,757	5,27,151
Rate per square mile on area surveyed up to date.	,,	99	138	24	78	217	151
Estimated area remaining for survey	Sq. mls.	..	..	381	493	..	..
Estimated expenditure	Rs.	..	..	20,000	27,500	..	..
Estimated total area	Sq. mls.	..	..	702	600	..	..
Estimated total cost	Rs.	..	..	27,771	35,864	..	..
Estimated rate per square mile	,,	..	..	40	60	..	..

Cadastral Re-Survey.

Particulars.		Gódávari.	Kistna.	Kurnool.	Salem.
1		2	3	4	5
Area re-surveyed up to date	Sq. mls.	2,517	2,983	294	2,325
Total expenditure up to date	Rs.	1,79,812	2,07,107	9,499	71,112
Rate per square mile on area re-surveyed up to date	,,	71	69	32	31
Estimated area remaining for survey	Sq. mls.	..	593	4,416	..
Estimated expenditure	Rs.	..	66,206	1,38,000	..
Estimated total area	Sq. mls.	..	3,576	4,710	..
Estimated total cost	Rs.	..	2,73,307	1,47,495	..
Estimated rate per square mile	,,	..	76	31	..

The above statements do not include the cost of boundary marks generally paid by land-holders.

The rates per square mile differ very slightly from those shown in last year's report.

8. Cost of work to ryots.—In the Kistna, Salem and Coimbatore districts, the ryots provided stones for boundary marks under section V of the Boundary Act. No advances were therefore necessary; but in Gódávari, Malabar and Canara, the cost of demarcation was paid for in advance by Government and afterwards recovered from the landholders under section VII of the Boundary Act. The average cost per acre to landholders is shown below :—

Gódávari	3 annas.
Malabar	3 ,,
Canara	2 ,,

These rates are the same as in the previous year.

9. Survey advances.—The following is a brief summary of the detailed report on the subject of survey advances submitted separately as directed in G.O., No. 823, Revenue, dated 8th October 1889.

Permanent advances.—The permanent advance for contingencies to officers in charge of parties was raised during 1896–97 from Rs. 2,500 to Rs. 4,100, the increase of Rs. 1,600 being advances sanctioned for the survey of Periyár wet lands, Kurnool re-survey and Madras town surveys and for the six survey divisions.

Temporary advances.—The temporary advance for demarcation stones was raised during 1896–97 from Rs. 1,92,781–10–8 to Rs. 2,08,671–10–8. The increase, Rs. 15,890, is the advance of Rs. 15,000 sanctioned for the Kurnool re-survey (G.O., No. 4952, dated 4th December 1896) and of Rs. 1,000 sanctioned for the Coonoor town survey (G.O., No. 838, dated 12th February 1897), less Rs. 110, sale-proceeds of stones in the custody of the Collector of Tanjore. The sums mentioned

above are floating advances and limit the amount which may be outstanding at any given time. At the end of the year, the total amount outstanding and recoverable from ryots was Rs. 56,401–6–6. The amount similarly outstanding on 1st April 1896, was Rs. 1,35,821–9–4.

10. Working of the Boundary Act.—During the year, no fines were inflicted under the Boundary Act except in Tanjore, where the Survey Deputy Collector fined seventeen ryots, altogether Rs. 13–8–0, for non-attendance. As the Superintendent considered that the Deputy Collector had acted without sufficient authority, the fines were cancelled.

II.—REPORT ON MAINTENANCE OF SURVEY RECORDS AND BOUNDARY MARKS.

It was explained in last year's report that until field measurement books are completed, maintenance of survey records and boundary marks cannot progress satisfactorily. At the beginning of the year, measurement books for only 2,329 villages were ready, leaving 20,975 villages to complete the Presidency. Of these, 4,396 were expected to be completed in six months. This estimate was realised and at the end of the year, the total number of villages completed was 9,127, more than one-third of the total number in the Presidency. The record of changes in occupation since the survey is now reported to be complete in 3,062 villages and missing boundary marks have been replaced in 5,475 villages. The districts in which the most satisfactory progress has been made are Salem, South Arcot and Chingleput. Those in which little or nothing has been done are Ganjám, Kurnool, Anantapur, Nellore and Cuddapah, the reason being that owing to agricultural distress, the karnams could not be spared for survey work. The prospects of successful maintenance in districts recently surveyed are now more hopeful, but as reported in my note printed with Board's Proceedings, No. 351, dated 18th September 1896, it will, no doubt, be necessary to re-survey several districts before resettlement.

The number of men instructed at survey schools was 12,913, being 734 less than in the previous year. The percentage of men classed as good or fair fell from 63 per cent. in the previous year to 52, while that for men classed as indifferent or bad rose from 37 to 48 per cent. But the figures do not really admit of comparison as the test applied in 1896–97, was not only much more severe, but was applied with uniform strictness in the different districts (appendix No. VI to this report). The change was most noticeable in Tanjore, where the examiners in the previous year had evidently been too lenient.

To show the interest taken in this subject, a copy of a Telugu book entitled "The Village Karnam's Mensuration," price one rupee per copy, compiled and published by K. Subbiah, Karnam of Pulicherla village, Ramallakót taluk, Kurnool district, is submitted herewith (appendix No. VIII to this report). The compiler is anxious that it should be prescribed by Government as a text-book for karnams. The book, although carefully compiled, is not sufficiently simple for the average karnam. But the compiler deserves encouragement and he has been informed that his intelligent enterprise will be brought to the favourable notice of Government.

The following statements show the progress of work up to date and the cost during the year :—

Maintenance—Outturn.

Division.	District.	Number of talks.	Total number of Government villages.	Number of men instructed at the survey schools in 1896.					Progress of Karnams' work up to 31st March 1897.				Remarks.
				Total.	Qualification.				Preparation of field measurement books.		Sub-divisions measured.	Missing stones replaced.	
					Good.	Fair.	Indifferent.	Bad.	Completed.	Balance.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14
											Villages.		
I	Ganjam	3	974	106	55	40	6	5	..	974	..	70	Schools not held in Berhampur and Goomsur taluks—Board's Proceedings, Mis. No. 5347, dated 30th October 1896.
	Vizagapatam	3	278	189	21	29	60	79	40	238	2	..	
	Godavari	9	839	1,046	187	319	249	291	219	620	219	..	
	Kistna	11	1,126	1,400	138	441	409	412	131	995	131	..	The district is under resurvey. School not held in Pattikonda taluk—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
	Kurnool	8	699	613	89	207	189	128	1	698	..	..	
II	Bellary	8	873	278	60	95	102	31	34	839	..	..	Schools not held in Rayadrug, Bellary and Adoni taluks—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
	Anantapur	8	609	250	60	64	91	45	1	608	..	..	Schools not held in Hindupur, Anantapur, Dharmavaram and Penukonda taluks—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
III	Cuddapah	11	1,092	420	74	120	172	54	..	1,092	..	..	Schools not held in Proddutur, Badvel and Pulivendla taluks—Board's Proceedings, Mis. No. 5176, dated 23rd October 1896.
	Nellore	9	597	491	186	97	141	67	..	597	..	..	Schools not held in Nellore and Kanigiri taluks—Board's Proceedings, Mis. No. 5646, dated 12th November 1896
	North Arcot	9	1,623	864	210	258	290	106	79	1,444	..	..	School not held in Wallajapet taluk—Board's Proceedings, Mis. No. 5729, dated 17th November 1896.
IV	Chinglepat	6	1,475	492	84	187	162	109	90	1,385	64	1,155	Schools not held in Tiruvallur and Ponneri taluks—Board's Proceedings, Mis. No. 5499, dated 6th November 1896.
	South Arcot	8	2,586	1,408	84	422	466	436	2,062	524	880	2,031	
	Salem	9	2,632	210	66	94	37	13	2,450	172	1,355	1,716	
V	Trichinopoly	5	676	1,718	631	427	612	248	576	895	..	56	Schools not held in the five taluks under resurvey and in the Dharmapuri taluk—Board's Proceedings, Mis No. 4012, Board's Proceedings, Mis. No. 5810, dated 15th August 1896, and No. 6810, dated 19th November 1896.
	Tanjore	9	1,433	676	236	171	175	95	538	620	..	1	No schools were held, as the karnams are all trained surveyors. They have just resurveyed the district.
	Madura	6	728	964	251	303	218	187	108	731	1	417	
	Tinnevelly	9	886	1,030	298	313	196	223	153	1,139	..	..	
	Coimbatore	10	1,356	30	13	10	6	1	217	36	..	..	
VI	Nilgiris	1	36	466	98	223	136	29	..	1,462	420	..	Bearings and distances are being entered in maps prior to preparation of field measurement books.
	Malabar	9	2,163	242	116	77	24	25	711	413	..	..	
	South Canara	6	833	833	84	84	84	84	420	..	..	..	
	Total	156	23,304	12,913	2,786	3,902	3,641	2,584	9,127	14,177	3,062	5,775	

Maintenance—Cost.

Division.	Gazetted officers' pay and allowances.	Establishment pay and travelling allowances.	Contingencies.	Total.
1	2	3	4	5
	Rs.	Rs.	Rs.	Rs.
I	9,246	5,139	259	14,644
II	16,020	4,056	278	20,354
III	6,043	4,585	341	10,969
IV	12,201	4,635	302	17,138
V	9,041	3,831	320	13,192
VI	*Nil*—as the officers in charge of cadastral surveys in Malabar and Canara supervise the district establishment or maintenance.	35,810	1,894	37,794
Total for 1896-97	52,551	58,056	3,394	1,14,001
Add expenditure during 1895-96.	45,619	21,328	934	67,881
Add previous expenditure ..	12,187	6,004	172	18,363
Grand Total ..	1,10,357	85,388	4,500	2,00,245

The expenditure on maintenance has risen from Rs. 67,881 in 1895–96 to Rs. 1,14,001 in 1896–97. The difference is chiefly the cost of preparation by special agency, of field measurement books for Janmis in Malabar, sanctioned in G.O., No. 1912, Revenue, dated 18th May 1896.

III.—GENERAL REMARKS.

As the work of the department approaches completion, it is not possible to obtain as large an outturn as in former years. Every surveyor knows that exertion on his part must reduce the period for which his services are likely to be required. In spite of this difficulty, the officers generally have done all they could to secure a fair outturn.

Mr. Greene and Mr. Ramaswamy Naidu have had exceptional difficulties to contend with and deserve special commendation.

Two Assistant Superintendents, Messrs. Mullins and Lushington, were employed as Forest Boundary Settlement officers throughout the year.

Training of Revenue and Forest officers.—Fifteen Assistant Collectors and four Deputy Collectors were instructed in surveying during the year. Their names are shown below:—

Fifteen Assistant Collectors.

Mr. J. J. Cotton.	Mr. R. B. Wood.	Mr. A. Edgington.
„ J. S. Heaney.	„ A. Thompson.	„ J. F. Bryant.
„ A. R. K. Banerjee.	„ N. MacMichael.	„ J. G. Burn.
„ R. W. D'E Ashe.	„ F. A. Coleridge.	„ P. K. Dadachanji.
„ E. S. Lloyd.	„ A. B. Willimott.	„ P. A. Booty.

Four Deputy Collectors.

Mr. N. S. Somasundra Sastri.	Mr. V. Ramaswami Aiyar.
„ P. Sitaramayya.	„ J. R. Coombes.

Service books.—All service books have been written up to date.

Inventory of valuable stock.—The inventory of valuable stock ordered in G.O., No. 843, dated 22nd July 1887, has been maintained and was checked at the end of the official year.

Appendices.—The following appendices are attached:—

I. Outturn and expenditure of field sections during 1896–97.
II. Outturn and expenditure of Central office during 1896–97.
III. Cost of work including share of Central office.
IV. General abstract for 1896–97.
V. Area surveyed and remaining for survey in each district up to 31st March 1897.
VI. Instructions for conducting survey schools, 1896.
VII. Outline sketch-maps of the Presidency and of each district showing progress of survey up to 31st March 1897.
VIII. Village Karnam's Mensuration by a karnam of the Kurnool district.

Appendix No. I.

Outturn and Expenditure of Field Sections during 1896–97.

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey. Number.	Government Order sanctioning the survey. Date.	Approximate area for survey.	Scale of maps, inches to one mile.	Field survey. Completed. Up to 1st April 1896.	Field survey. Completed. During 1896–97.	Field survey. Completed. Total on 1st April 1897.	Field survey. Balance on 1st April 1897.	Finishing maps and records—Recess work. Completed. Up to 1st April 1896.	Finishing maps and records—Recess work. Completed. During 1896–97.	Finishing maps and records—Recess work. Completed. Total on 1st April 1897.	Finishing maps and records—Recess work. Balance on 1st April 1897.	Cost during 1896–97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. I. Survey Division. *Expenditure chargeable to outturn.*															Rs.	Rs.	Rs.	
Godávari	Narsapur	1	Cadastral Survey.	1084 & 2425, Revenue.	14th November 1891 and 18th June 1896.	29	16	23	1	29	..	20	9	29	..	866	7,277	251	Non-Government villages; stone boundary marks paid for by Government.
	Bhimavaram	2				106	16	106	..	106	..	106	..	106	..	1,679	26,671	251	
	Tanuku	3				113	16	112	1	113	..	113	..	113	..	1,384	20,664	182	
	Amalápuram	4				107	16	107	..	107	..	107	..	107	..	500	19,031	178	
	Rámachandrapuram	5				61	16	61	..	61	..	61	..	61	..	253	8,307	163	
	Cocanada	6				117	16	117	..	117	..	117	..	117	..	4,296	16,587	142	
	Rajahmundry	7				23	16	23	..	23	..	23	..	23	..	252	3,620	157	
	Ellore	8				40	16	36	4	40	..	40	..	40	..	1,875	4,206	105	
	Yernagúdem	9				13	16	9	4	13	..	13	..	13	..	983	1,360	105	
	Total	..				599	..	589	10	599	..	431	168	599	..	11,438	1,07,523	180	
Godávari	Rajahmundry	10	Cadastral survey.	684, Rev., and 2541 Board's Proceedings (Settlement).	14th October 1895 and 27th May 1896.	5	8	..	5	5	..	..	5	5	..	783	783	157	Government villages; Survey of hill and jungle containing scattered patches of cultivation.
	Peddápuram	11				81	8	..	31	31	..	..	18	18	13	6,183	6,183	167	
	Ellore	12				20	8	..	20	20	..	..	20	20	..	2,453	2,455	123	
	Yernagúdem	13				24	8	..	24	24	..	..	15	15	9	2,601	2,601	108	
	Total	..				80	..	..	80	80	..	..	58	58	22	11,020	11,020	138	
Godávari	Narsapur	14	Cadastral survey.	....	....	6	16	..	6	6	..	..	6	6	..	2,446	2,446	64	Government villages; Islands in the Godávari Rivers.
	Bhimavaram	15				19	16	..	19	19	..	..	19	19	..				
	Tanuku	16				2	16	..	2	2	..	..	2	2	..				
	Amalápuram	17				1	16	..	1	1	..	..	1	1	..				
	Rámachandrapuram	18				10	16	..	10	10	..	..	10	10	..				
	Total	..				38	..	..	38	38	..	..	38	38	..	2,446	2,446	64	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896-97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896-97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. I Survey Division. *Expenditure chargeable to outturn*—cont.					SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
Gódávari—*cont.*	Narsapur	19	Cadastral re-survey.	1084, Revenue.	14th November 1891.	376	16	376	..	376	..	376	..	376	..	..	33,040	88	Government villages; stone boundary marks paid for by landholders.
	Bhimavaram	20				216	16	216	..	216	..	216	..	216	..	..	21,399	99	
	Tanuku	21				221	16	221	..	221	..	221	..	221	..	..	21,057	95	
	Amalápuram	22				274	16	274	..	274	..	274	..	274	..	..	18,391	67	
	Rámachandrapuram.	23				318	16	318	..	318	..	318	..	318	..	..	19,253	61	
	Rajahmundry ..	24				261	16	261	..	261	..	240	21	261	..	867	13,693	52	
	Peddápuram	25				208	16	208	..	208	..	78	130	208	..	1,493	12,516	60	
	Ellore	26				345	16	345	..	345	..	335	10	345	..	3,886	19,186	56	
	Yernagudem ..	27				298	16	298	..	298	..	288	10	298	..	5,264	21,277	71	
	Total ..	..	....	....	....	2,517	..	2,517	..	2,517	..	2,346	171	2,517	..	11,510	1,79,812	71	
Kistna.	Bunder	28	Cadastral re-survey.	1084, Revenue.	14th Nov. 1891.	406	16	406	..	406	..	406	..	406	..	..	34,552	85	
	Gudiváda	29		15, Revenue ..	16th Jan. 1896..	355	16	355	..	355	..	355	..	355	..	307	33,537	94	
	Bezwada	30				175	16	175	..	175	..	175	..	175	..	..	15,470	88	
	Bapatla	31				664	16	664	..	664	..	657	7	664	..	2,138	63,924	96	
	Répalle	32				603	16	603	..	603	..	580	23	603	..	15,556	45,050	75	
	Guntúr	33				459	16	..	459	459	..	..	214	214	245	8,021	8,021	17	
	Nandigáma	34				417	16	..	321	321	96	..	78	78	339	6,553	6,553	16	
	Total ..	..	....	....	....	3,079	..	2,203	780	2,983	96	2,173	322	2,495	584	32,575	2,07,107	67	
	Expenditure not chargeable to outturn.																		
Gódávari.	Bhadrachalam ..	35	....	712, Revenue ..	18th Feb. 1896.	..	..	..	..	..	..	..	..	..	..	725	..	..	Survey of the Gódávari-Hyderabad boundary.
Kistna.	....	36	....	1682, Revenue ..	29th April 1895.	..	..	..	..	..	..	..	..	..	..	238	..	..	Survey of the Kistna-Hyderabad boundary.
	Total ..	..	....	....	....	..	..	..	..	..	..	..	..	..	..	963	..	..	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896-97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records —Recess work.				Cost during 1896-97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. II Survey Division. *Expenditure chargeable to outturn.*					SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
Kurnool.	Runallakot	1	Cadastral Re-survey.	839, Revenue ..	30th Dec. 1895.	775	16	..	171	171	604	..	..	..	775	4,783	4,783	6	
	Nandikotkur ..	2				677	16	..	123	123	554	..	..	..	677	4,712	4,712	7	
	Total ..	..	..	..	..	1,452	..	..	294	294	1,158	..	..	..	1,452	9,495	9,495	7	
	No. III Survey Division. *Expenditure chargeable to outturn.*																		
North Arcot.	Gudiyáttam	1	Town surveys.	909, Financial..	29th Oct. 1894.	1	40	..	..	..	1	..	..	..	1	2,028	2,028	2,028	
	Vellore	2				3	40	..	..	..	3	..	..	..	3	663	663	221	
	Waláj apet	3				1	40	..	..	..	1	..	..	..	1	254	254	254	
	Total ..	..	..	..	..	5	..	..	..	..	5	..	..	..	5	2,945	2,945	..	
	No. IV Survey Division. *Expenditure chargeable to outturn.*																		
Chingleput.	Madras	1	Town surveys.	909, Financial..	29th Oct. 1894.	27	40	14	13	27	..	..	18	18	9	35,962	74,402	2,755	
	Conjeeveram ..	2				4	40	1	3	4	..	..	1	1	3	8,852	11,578	2,895	
		..	..	..	..	31	..	15	16	31	..	..	19	19	12	44,814	85,980	..	
Salem.	Uttangarai	3	Cadastral survey.	840, Revenue ..	28th Nov. 1894.	19	16	..	19	19	..	..	19	19	..	545	545	29	Survey of hill and jungle containing scattered patches of cultivation.
	Hosur	4				300	16	40	260	300	..	2	..	2	298	4,881	7,226	24	
		..	..	..	..	319	..	40	279	319	..	2	19	21	298	..	..	..	
	Námakkal	5	Cadastral re-survey.	1053, Revenue ..	3rd Dec. 1893.	278	16	278	..	278	..	205	73	278	..	1,764	10,660	38	
	Tiruchengodu ..	6				447	16	447	..	447	..	194	253	447	..	3,282	12,338	28	
	Salem	7				656	16	656	..	656	..	106	550	656	..	6,039	17,074	26	
	Atár	8				433	16	433	..	433	..	45	388	433	..	5,702	15,343	35	
	Uttangarai	9				511	16	511	..	511	..	49	462	511	..	5,621	15,697	31	
		..	..	..	..	2,325	..	2,325	..	2,325	..	599	1,726	2,325	..	22,408	71,112	31	
	Vániyambádi ..	10	Town surveys.	909, Financial.	29th Oct. 1894.	3	40	..	2	2	1	..	..	..	3	5,100	5,100	1,700	
	Salem	11				3	40	..	..	..	3	..	..	..	3	1,341	1,341	447	
	Tiruppattur ..	12				2	40	..	..	..	2	..	..	..	2	405	405	202	
	Total ..	..	..	..	..	8	..	..	2	2	6	..	..	..	8	6,846	6,846	856	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896–97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records—Recess work.				Cost during 1896–97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. IV Survey Division—*cont.*					SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
	Expenditure chargeable to outturn.																		
Trichinopoly.	Marungapuri zemindari.	13	Cadastral survey.	836, Revenue..	15th Sept. 1893.	164	16	164	..	164	..	20	144	164	..	..	..	..	Survey for the Court of Wards. Rs.7,895 expended during 1896-97 was paid from funds provided by the Court of Wards. On finishing the maps of the Marungapuri zemindari, the area mapped under field survey was found to require correction from 180 to 164 square miles.
	Srirangam	14	Town surveys.	909, Financial..	29th Oct. 1894.	7	40	..	6	6	1	..	..	..	7	6,497	4,497	644	
	Trichinopoly ..	15				8	40	..	..	..	8	..	..	..	8	2,806	2,806	351	
	No. V Survey Division.																		
	Expenditure chargeable to outturn.																		
Tanjore.	Pattukottai	1	Cadastral survey.	152, Revenue.	23rd Feb. 1894.	536	8	167	359	526	10	..	522	522	14	8,668	11,608	22	Block survey of inam villages.
	Sholáli																		
	Mayavaram																		
	Nannilam																		
	Negapatam																		
	Kumbakónam ..																		
	Tanjore																		
	Mannárgudi																		
	Tirutturaippúndi ..																		
	Tanjore	2	Do.	801, Miscellaneous.	20th Feb. 1895.	130	8	..	33	33	97	..	..	..	130	..	..	..	Survey of chattram villages for the District Board. Rs 3,323 expended during 1896-97 was paid from funds provided by the District Board.
	Mayavaram	3	Town surveys.	909, Financial.	29th Oct. 1894.	2	40	..	..	..	2	..	..	..	2	1,135	1,135	5.7	
	Tanjore	4				..	40	..	..	..	..	..	..	..	..	419	419	..	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896-97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records—Recess work.				Cost during 1896–97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.				Completed.							
				Number.	Date.			Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.	Up to 1st April 1896.	During 1896–97.	Total on 1st April 1897.	Balance on 1st April 1897.				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. V Survey Division—*cont.*					SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	RS.	RS.	RS.	
	Expenditure chargeable to outturn.																		
Madura.	Madura	5	Cadastral survey.	4572, Miscellaneous.	14th Nov. 1895.	87	16	..	87	87	..	..	46	46	41	14,939	14,939	172	Non-Government villages commanded by the Periyár Project.
	Mélúr																		
	Dindigul																		
	Sáptúr zemindari ..	6	Do.	401, Revenue.	26th June 1895.	43	16	..	35	35	8	..	4	4	39	..	..	..	Survey for the Court of Wards; Rs. 6,494 expended during 1896-97 was paid from funds provided by the Court of Wards.
	Palni	7	Town surveys.	909, Financial.	29th Oct. 1894.	2	40	..	2	2	..	..	..	..	2	4,351	4,351	2,175	
	Periyakulam ..	8				1	40	..	1	1	..	..	..	..	1	4,058	4,058	2,029	
	Madura	9				6	40	..	1	1	5	..	..	..	6	4,058	4,058	2,029	
	Total ..	..	....	....	....	9	..	..	4	4	5	..	..	..	9	12,467	12,467	..	
	No. VI Survey Division.																		
	Expenditure chargeable to outturn.																		
Coimbatore.	Satyamangalam ..	1	Cadastral survey.	124, Revenue	15th Feb. 1894.	204	8	..	92	92	112	..	..	..	204	7,649	7,649	37	Survey of hill and jungle containing scattered patches of cultivation.
	Bhavání	2				88	8	..	15	15	73	..	..	..	88	715	715	8	
	Total ..	..	....	....	....	292	..	..	107	107	185	..	..	..	292	8,364	8,364	29	
	Mavathampatti ..	3	Cadastral survey.	4,885	4th Dec. 1895.	7	16	..	7	7	..	..	7	7	..	422	422	60	Cost of survey to be recovered from Perur Devastanam Committee.

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896-97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records—Recess work.				Cost during 1896-97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.			Balance on 1st April 1897.	Completed.			Balance on 1st April 1897.				
				Number.	Date.			Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.		Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. VI Survey Division—*cont.*					SQ. M.		SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	Rs.	Rs.	Rs.	
	Expenditure chargeable to outturn—cont.																		
Nilgiris	Ootacamund ..	4	Town survey.	909, Financial	29th October 1894.	11	40	10	1	1	..	..	6	6	5	7,805	20,807	1,892	
Nilgiris	Coonoor	5	Town survey.	909, Financial	29th October 1894.	7	40	..	3	3	4	..	..	..	7	5,233	5,233	748	
	Total ..	..	....	....	....	18	..	10	4	4	4	..	6	6	12	13,038	26,040	..	
Malabar	Kóttayam	6	Cadastral survey.	315, Revenue.	22nd March 1887.	337	16	337		37	..	279	..	279	58	..	68,855	204	
Malabar	Ernad	7	Cadastral survey.	315, Revenue.	22nd March 1887.	638	16	638		38	..	454	32	486	152	2,868	1,20,883	189	
Malabar	Chirakkal	8	Cadastral survey.	315, Revenue.	22nd March 1887.	335	16	335		335	..	247	72	319	16	4,508	80,497	240	
Malabar	Calicut	9	Cadastral survey.	315, Revenue.	22nd March 1887.	273	16	273		273	..	261	12	273	..	..	58,830	215	
	Total ..	..	....	....	....	1,583	..	1,5		1,583	..	1,241	116	1,357	226	7,376	3,29,065	..	
Malabar	Palghat	10	Cadastral survey.	594, Revenue.	2nd September 1895.	1,168	8	63	4	1,168	..	..	55	55	1,113	17,860	31,050	27	Survey of hill and jungle containing scattered patches of cultivation.
Malabar	Walavanad																		
Malabar	Kurumbranát ..																		
Malabar	Kóttayam																		
Malabar	Ernad																		
Malabar	Chirakkal																		
Malabar	Calicut																		
South Canara.	Mangalore	11	Do.	315, Revenue.	22nd March 1887.	671	16	671	..	671	..	585	..	585	86	..	1,24,761	186	
South Canara.	Udipi	12	Do.	315, Revenue.	22nd March 1887.	751	16	751	..	751	..	729	22	751	..	784	1,12,797	150	
South Canara.	Uppinangadi ..	13	Do.	315, Revenue.	22nd March 1887.	429	16	429	..	429	..	211	218	429	..	6,610	38,921	91	
South Canara.	Coondapoor	14	Do.	315, Revenue.	22nd March 1887.	366	16	366	..	366	..	330	36	366	..	2,305	61,415	168	
	Total ..	..	....	....	....	2,217	..	2,217	..	2,217	..	1,855	276	2,131	86	9,099	3,37,924	..	

APPENDIX No. I—*continued.*

Outturn and Expenditure of Field Sections during 1896-97—*continued.*

District.	Taluk.	Number of item.	Nature of survey.	Government Order sanctioning the survey.		Approximate area for survey.	Scale of maps, inches to one mile.	Field survey.				Finishing maps and records—Recess work.				Cost during 1896-97.	Total cost up to date.	Rate per square mile on total area up to date.	Remarks.
								Completed.			Balance on 1st April 1897.	Completed.			Balance on 1st April 1897.				
				Number.	Date.			Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.		Up to 1st April 1896.	During 1896-97.	Total on 1st April 1897.					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
	No. VI Survey Division—*cont.*					SQ. M.		SQ. M	SQ. M.	SQ. M	SQ. M.	SQ. M.	SQ. M.	SQ. M.	SQ. M.	Rs.	Rs.	Rs.	
	Expenditure chargeable to outturn—cont.																		
South Canara—*cont.*	Uppinangadi ..	15	Cadastral survey.	594, Revenue.	2nd September 1895	522	8	72	450	522	..	..	372	372	150	40,559	48,189	46	Survey of hill and jungle containing scattered patches of cultivation.
South Canara—*cont.*	Coondapoor	16	Cadastral survey.	594, Revenue.	2nd September 1895	146	8	146	..	146	..	..	146	146	..				
South Canara—*cont.*	Kasaragod	17	Cadastral survey.	594, Revenue.	2nd September 1895	377	8	..	377	377	..	..	..	..	377				
South Canara—*cont.*	Mangalore	18	Cadastral survey.	594, Revenue.	2nd September 1895	11	8	..	11	11	..	..	..	..	11				
	Total ..	..		..	..	1,056	..	218	838	1,056	..	..	518	518	538	..	..	..	
	Expenditure not chargeable to outturn.																		
Malabar	Wynaad	19	Revision of survey and settlement.	1071, Revenue.	11th December 1893.	..	..	..	..	..	..	..	..	..	..	15,854	..	..	
Malabar	Kurumbranát ..	20	Supplemental sub-division.	594, Revenue.	2nd September 1895.	..	..	..	..	..	..	..	..	..	..	5,696	..	..	
Malabar	Ponnáni	21	Supplemental sub-division.	594, Revenue.	2nd September 1895.	..	..	..	..	..	..	..	..	..	..	6,438	..	..	
Malabar	Ponnáni	22	Demarcation and survey of Ponnáni-Cochin boundary.	150, Revenue. 543, Miscellaneous.	22nd February 1894. 6th February 1895.	..	..	..	..	..	..	..	..	..	..	1,586	2,151	..	
																Exchange compensation allowance ..			
																1,757	..	..	
																Total ..			
																31,331	..	..	
South Canara.	Kasaragod	23	Supplemental sub-division.	594, Revenue.	2nd September 1895.	..	..	..	..	..	..	..	..	..	..	13,408	..	..	
South Canara.	Do.	24	Hill sketching..	..	..	..	..	..	..	..	..	..	..	..	..	1,008	..	..	
South Canara.	Mangalore	25	Do. ..	..	..	..	..	..	..	..	..	..	..	..	..	815	..	..	
																Exchange compensation allowance ..			
																953	..	..	
																Total ..			
																16,184	..	..	
	Town Surveys— ..															Exchange compensation allowance ..			
																1,105	..	..	

APPENDIX No. II.

Outturn and Expenditure of Central Office during 1896–97.

Maps published.	Scale inches to 1 mile.	Area in square miles.	Cost of finished work including expenditure during previous years.	Rate per square mile.
1	2	3	4	5
			Rs.	Rs. A. P.
Government villages	16 and 8	4,723	11,499	2 6 11
Non-Government villages	4	14	46	3 4 7
Taluk *	1	3,512	5,006	1 6 10
District	½	5,312	688	0 2 1
		copies.		
Miscellaneous maps	..	256,947	13,800	..
Share of Central Office debitable to parties	..	..	72,541	..
Total	..	..	1,03,570	..
Add outlay on incomplete work on 1st April 1897	..	..	906	..
Total	..	..	1,04,476	..
Deduct outlay on incomplete work on 1st April 1896	..	..	3,706	..
	..	..	1,00,770	..
Exchange compensation allowance	..	..	3,103	..
Expenditure of Central Office during 1896–97	..	..	1,03,873	..

* Kalyandrug. Kottayam. Calicut.
Hindúpur. Ernad. Mangalore.
Madakasira.

Year.	Zincographed		Supplied for Government purposes.	Sold to private individuals.	
	Copies.	Pulls.	Copies.	Copies.	Price.
1	2	3	4	5	6
	No.	No.	No.	No.	Rs. A. P.
1894–95	235,473	204,347	177,113	328	719 9 0
1895–96	263,630	203,211	220,243	504	982 0 0
1896–97	342,541	231,636	285,960	885	959 10 0

APPENDIX No. III.

Cost of work including share of Central Office.

Nature of work.	Scale inches to a mile.	Up to 31st March 1896. Outturn.	Outlay.	Rate per square mile.	Up to 31st March 1897. Outturn.	Outlay.	Rate per square mile.
1	2	3	4	5	6	7	8
Completed area.		Sq. mls.	Rs.	Rs. A. P.	Sq. mls.	Rs.	Rs. A. P.
Cadastral survey—							
Demarcation	16	38,851	38,73,835	100 0 0	* 41,170	39,15,833	95 0 0
Field survey	16	74,945	1,42,77,582	192 0 0	* 77,264	1,44,04,817	186 0 0
Cadastral re-survey—							
Demarcation	16	9,778	1,48,787	15 0 0	10,852	1,61,585	15 0 0
Field survey	16	9,778	4,87,513	50 0 0	10,852	5,67,939	52 0 0
Town survey	40	25	67,818	2,713 0 0	57	1,76,966	3,105 0 0
Topographical survey	Various.	58,080	23,63,469	41 0 0	58,080	23,63,469	41 0 0
Publication—							
Government villages and coffee or tea plantations.	16 & 8	83,146	3,82,278	4 9 9	87,869	3,96,373	4 8 2
Non-Government villages	4	12,627	17,449	1 6 1	12,641	17,505	1 6 2
Taluk maps	1	109,884	1,17,868	1 0 1	1,13,396	1,24,010	1 1 6
District maps	½	96,037	73,909	0 12 4	101,349	74,753	0 11 10
Quarter atlas sheets	¼	53,940	9,244	0 2 9	53,940	9,244	0 2 9
Incomplete area.							
Cadastral survey—							
Publication	..	..	3,706	..	..	906	..
Miscellaneous work which cannot be expressed in area.							
Cadastral survey	..	..	1,68,709	..	..	2,14,477	..
Topographical	..	..	34,955	..	..	34,955	..
Publication	..	..	3,83,415	..	..	3,97,215	..
Survey training of karnams	..	..	71,468	..	..	71,468	..
Survey instruments for karnams ..	..	..	25,295	..	..	25,295	..
Exchange compensation allowance ..	..	..	32,880	..	..	39,798	..
Total ..	..	..	2,25,40,580	..	..	2,29,96,608	..
Add cost of maintenance of boundary marks and survey records.	..	..	86,244	..	..	2,00,245	..
Grand Total ..	..	..	2,26,26,824	..	..	2,31,96,853	..

* Excludes 248 square miles, area surveyed in the Marungápuri zemindari, Trichinopoly district, Saptur zemindari, Madura district, and Tanjore Chattram villages, Tanjore district, for which cost was not incurred by the Survey Department.

APPENDIX No. IV.

General Abstract for 1896–97.

Area surveyed and remaining for survey.

Particulars.	Revenue.	Topographical.	Total.
1	2	3	4
	Sq. mls.	Sq. mls.	Sq. mls.
Total estimated area of the Presidency by latest calculation	73,069	70,006	143,075
Surveyed up to end of 1895–96	73,069	56,334	129,403
Surveyed in 1896–97	..	..	..
Surveyed up to end of 1896–97	73,069	56,334	129,403
Handed over to Survey of India	..	13,672	13,672
Balance for survey by Madras Survey	..	..	..

Note.—Of the area 13,672 square miles shown above as handed over to Survey of India, 2,189 square miles (in Malabar and South Canara) of hill and jungle containing scattered patches of cultivation have been surveyed by the Madras Survey Department in the manner described in paragraph 1 of the report for 1894–95.

APPENDIX No. IV—*continued.*

Outturn and Outlay.

Year.	Area mapped by parties.				
	Cadastral survey.			Cadastral re-survey.	Town survey.
	Scale.			Scale.	Scale.
	16".	8" and 4".	2" and 1".	16".	40".
1	2	3	4	5	6
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
During 1895-96	2,028	..	..	1,692	25
During 1896-97	2,387	..	..	1,074	32
Up to 31st March 1896	75,125	14,412	43,668	9,778	25
Up to 31st March 1897	77,512	14,412	43,668	10,852	57

Year.	Area published in Central Office.				Quarter sheets atlas of India.	Cost.
	Scale.					
	16" and 8".	4".	1".	¼".		
	7	8	9	10	11	12
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	RS.
During 1895-96	3,031	12	..	..	..	5,10,194
During 1896-97	4,723	14	3,512	5,312	..	4,56,028
Up to 31st March 1896	83,146	12,627	109,884	96,037	53,940	2,25,40,580
Up to 31st March 1897	87,869	12,641	113,396	101,349	53,940	2,29,96,608

Note.—(1) The area published includes area of maps reprinted.

(2) The cost entered in column 12 is exclusive of cost of maintenance of survey records and boundary marks as per particulars shown below :—

			RS.
1893-94	..	..	6,783
1894-95	..	..	11,580
1895-96	..	..	67,881
1896-97	..	..	1,14,001
	Total	..	2,00,245

(3) The difference between the area mapped by parties and the area surveyed during 1896-97 is explained below :—

	SQ. MLS.		SQ. MLS.	
Area surveyed	..	1. Gódávari hill and jungle containing scattered patches of cultivation	80	Surveyed topographically in previous years, but now surveyed cadastrally.
Area mapped by parties..	2,387	2. Non-Government villages in the Gódávari delta	10	
		3. Government villages—islands in the Gódávari rivers	33	
Difference ..	2,387	4. Hosúr taluk (hill and jungle containing scattered patches of cultivation).	260	
		5. Uttangarai taluk,—Resumed villages of the Bommidi division	19	
		6. Inam fields in the Tanjore district ..	359	
		7. Chattram villages do.	33	
		8. Madura—Periyár wet lands	87	
		9. Madura—Saptur zemindari	35	
		10. Coimbatore—Inam village of Mavuthampatti	7	
		11. Coimbatore—hill and jungle containing scattered patches of cultivation	107	
		12. Malabar	514	Cadastral survey of hill and jungle (within the area handed over to the Survey of India for topographical survey) containing scattered patches of cultivation.
		13. South Canara	838	
		Total ..	2,387	

APPENDIX No. V.

Area surveyed and remaining for survey in each district up to 31st March 1897.

Initial Survey.

Districts.	Total area of each district.		Area for topographical survey by the Survey of India.	Balance for survey by the Madras Survey Department.	Surveyed by the Madras Survey Department.			Balance.
	Survey area.	Estimated area.			Revenue.	Topographical.	Total.	
1	2	3	4	5	6	7	8	9
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Ganjám	..	8,369	3,252	5,117	1,661	3,456	5,117	Nil.
Vizagapatam	..	17,223	5,931	11,292	507	10,785	11,292	
Gódávari	7,972	..	..	7,972	2,907	5,065	7,972	
Kistna	8,478	..	..	8,478	6,433	2,045	8,478	
Kurnool	7,769	..	..	7,769	4,840	2,929	7,769	
Bellary	6,141	..	..	6,141	5,374	767	6,141	
Anantapur	..	5,312	..	5,312	4,538	774	5,312	
Cuddapah	8,723	..	..	8,723	5,422	3,301	8,723	
Nellore	8,760	..	..	8,760	4,233	4,527	8,760	
North Arcot	7,620	..	..	7,620	2,852	4,768	7,620	
Madras	27	..	..	27	27	..	27	
Chingleput	2,842	..	..	2,842	2,109	733	2,842	
South Arcot	5,218	..	..	5,218	4,667	551	5,218	
Salem	7,529	..	..	7,529	3,658	3,871	7,529	
Trichinopoly	..	4,733	1,100	3,633	2,701	932	3,633	
Tanjore	3,708	..	..	3,708	2,592	1,116	3,708	
Madura	..	8,813	618	8,195	3,124	5,071	8,195	
Tinnevelly	..	5,389	582	4,807	3,080	1,727	4,807	
Coimbatore	7,861	..	..	7,861	5,175	2,686	7,861	
Nilgiris	957	..	..	957	603	354	957	
Malabar	..	5,647	1,097	4,550	3,674	876	4,550	
South Canara	..	3,984	1,092	2,892	2,892	..	2,892	
Total ..	83,605	59,470	13,672	129,403	73,069	56,334	129,403	

Special Survey.—Cadastral Survey.

District.		Total area for survey.		Surveyed up to 31st March 1897.	Balance.	Remarks.
		Survey area.	Estimated area.			
1		2	3	4	5	6
		SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Ganjám ..	Extension of Surla Salt factory.	..	1	..	1	
Gódávari ..	Non-Government villages ..	..	599	599	..	Hill and jungle containing scattered patches of cultivation.
	Hill villages	..	80	80	..	
	Agency villages in Polavaram and Yellavaram.	..	25	..	25	
	Yadavol Estate	..	37	..	37	
Nellore ..	Mamul wet lands ..	..	2	..	2	
Chingleput ..	Koyambedu Shrotriem ..	..	1	..	1	
Salem ..	Hill villages	..	702	321	381	
Trichinopoly.	Marungapuri Zemindari ..	164	..	164	..	
Tanjore ..	Chattram villages ..	..	130	33	97	
	Inam villages	..	536	526	10	
	Revision Survey of Salt factories.	..	1	..	1	
Madura ..	Sáptár zemindari ..	..	43	35	8	
	Periyár Wet lands ..	..	87	87	..	
	Tevaram Zemindari ..	..	20	..	20	
Tinnevelly ..	Revision Survey of Salt factories.	..	1	..	1	
Coimbatore.	Hill villages	..	600	107	493	
Malabar		..	1,168	1,168	..	
South Canara		..	1,056	1,056	..	
56. Municipal Towns		..	257	57	200	
Total ..		164	5,346	4,233	1,277	

APPENDIX No. V—*continued.*

Area surveyed and remaining for survey in each district up to 31st March 1897—*cont.*

Special Survey.—Cadastral Re-survey.

District.	Total area for survey.	Surveyed up to 31st March 1897.	Balance.	Remarks.
1	2	3	4	5
	SQ. MLS.	SQ. MLS.	SQ. MLS.	
Gódávari	2,517	2,517	..	
Kistna	3,576	2,983	593	
Kurnool	4,710	294	4,416	
Salem	2,325	2,325	..	
Trichinopoly	2,733	2,733	..	
Total ..	15,861	10,852	5,009	

NOTE.—Malabar District—

	SQ. MLS.	SQ. MLS.
Area for topographical survey by the Survey of India—column 4 of Statement of Initial Survey	1,097	
Deduct area of forests	250	
Balance ..		847
Area topographically surveyed by the Madras Survey Department—column 7 of Statement of Initial Survey	876	
Deduct area topographically surveyed in the Wynaad taluk	555	
Balance ..		321
Area of hill and jungle with scattered patches of cultivation to be surveyed in the manner described in paragraph 1 of the report for 1894-95		1,168
		Column 3 of Special Survey Statement.

South Canara District—

Area for topographical survey by the Survey of India	1,092
Deduct area of forests	450
Balance area of hill and jungle with scattered patches of cultivation to be surveyed by the Madras Survey Department in the manner described in paragraph 1 of the report for 1894-95	642
Add area of hill and jungle since found necessary to be surveyed in order to meet the requirements of the Settlement Department	414
	1,056
	Column 3 of Special Survey Statement.

APPENDIX No. VI.

INSTRUCTIONS FOR CONDUCTING SURVEY SCHOOLS, 1896.

1. As all karnams have already gone through the course of instruction at least twice, ten days will usually be sufficient instead of thirteen (see revised course, Karnam's Manual, Appendix No. I, revised in 1894).

2. Every karnam should, if possible, be examined by the Inspecting Officer himself before being classed as good, fair, indifferent or bad. The examination should be in writing and should consist of—

1st.—Plotting, neatly to scale from a sketch not drawn to scale but showing measurements, one survey field containing three sub-divisions.

2nd.—Arithmetical computation by diagonals and offsets of the area of the survey field mentioned above.

3rd.—Scaling the area, with Area Square, of each of the three sub-divisions mentioned above and comparison of the total with the area of the survey field found by arithmetical computation.

4th.—Plotting on the 40-inch scale, a survey field of from 5 to 10 acres and bounded by not less than 5 straight lines, from measurements taken with compass and scale from a lithographed map on the 16-inch or 8-inch scale.

5th.—Six simple questions on the Survey Manual.

Unless the first four tests mentioned above are passed successfully, the karnam should be classed as indifferent or bad. If he passes these four tests satisfactorily and answers correctly more than three of the questions in the fifth test, he can be classed as good; if less than three, fair.

3. The following endorsement should be entered on the back of the certificate which is already in the possession of each karnam:—

Attended the survey school held at
from to
Qualification—

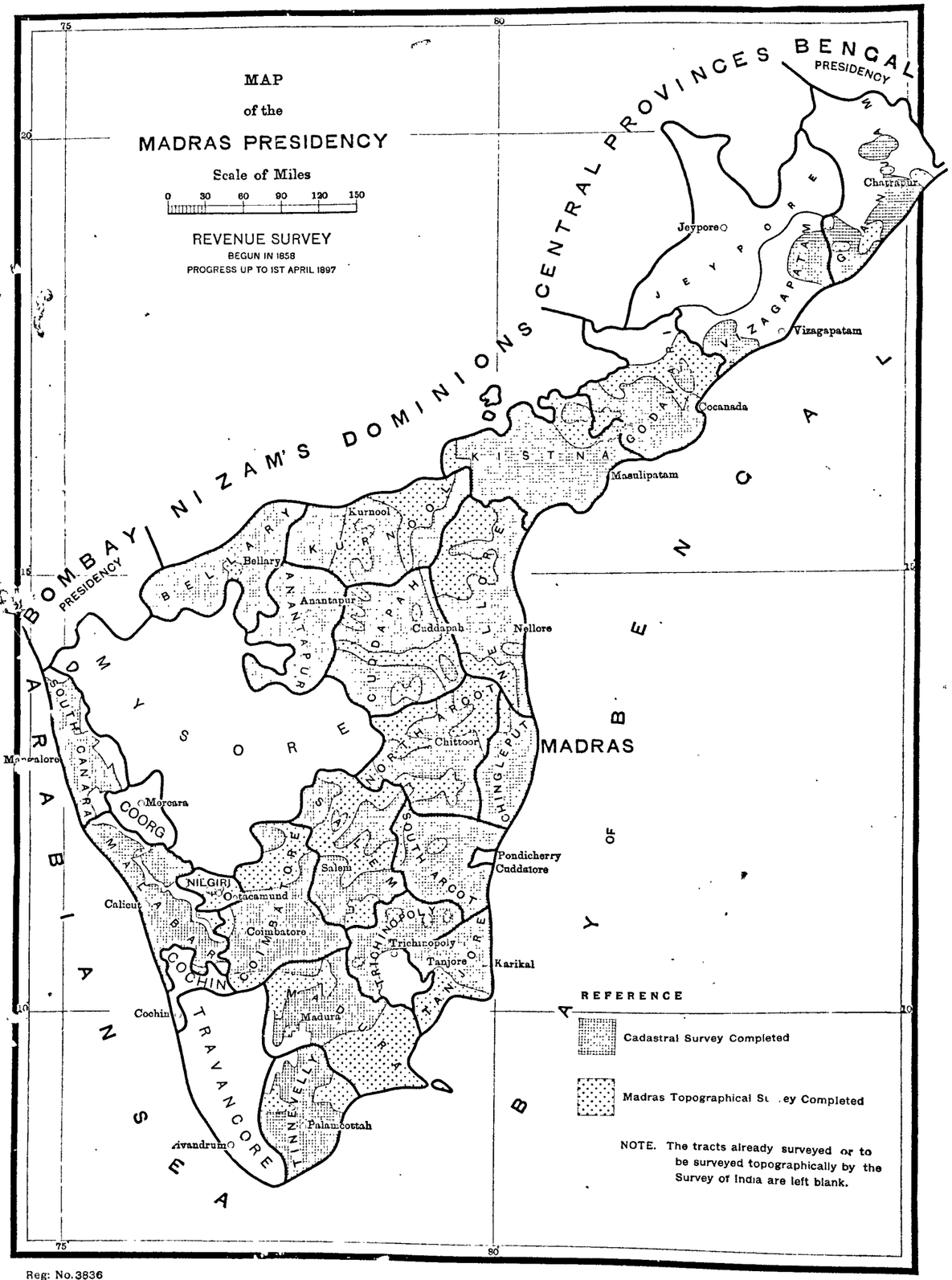
Signature of the officer conducting the school.

4. A list, in form attached, of all karnams instructed showing qualification of each, state of instruments and Field Measurement Books, should be signed by the Inspecting officer and given to the Tahsildar.

5. While the school is in progress, at least two hours every afternoon should be devoted to plotting of the Village Field Measurement Book so as to bring up arrears as far as possible. The Revenue Inspectors should test the plotting of their karnams and the District Surveyor should retest some of the plotting already examined by the Revenue Inspector.

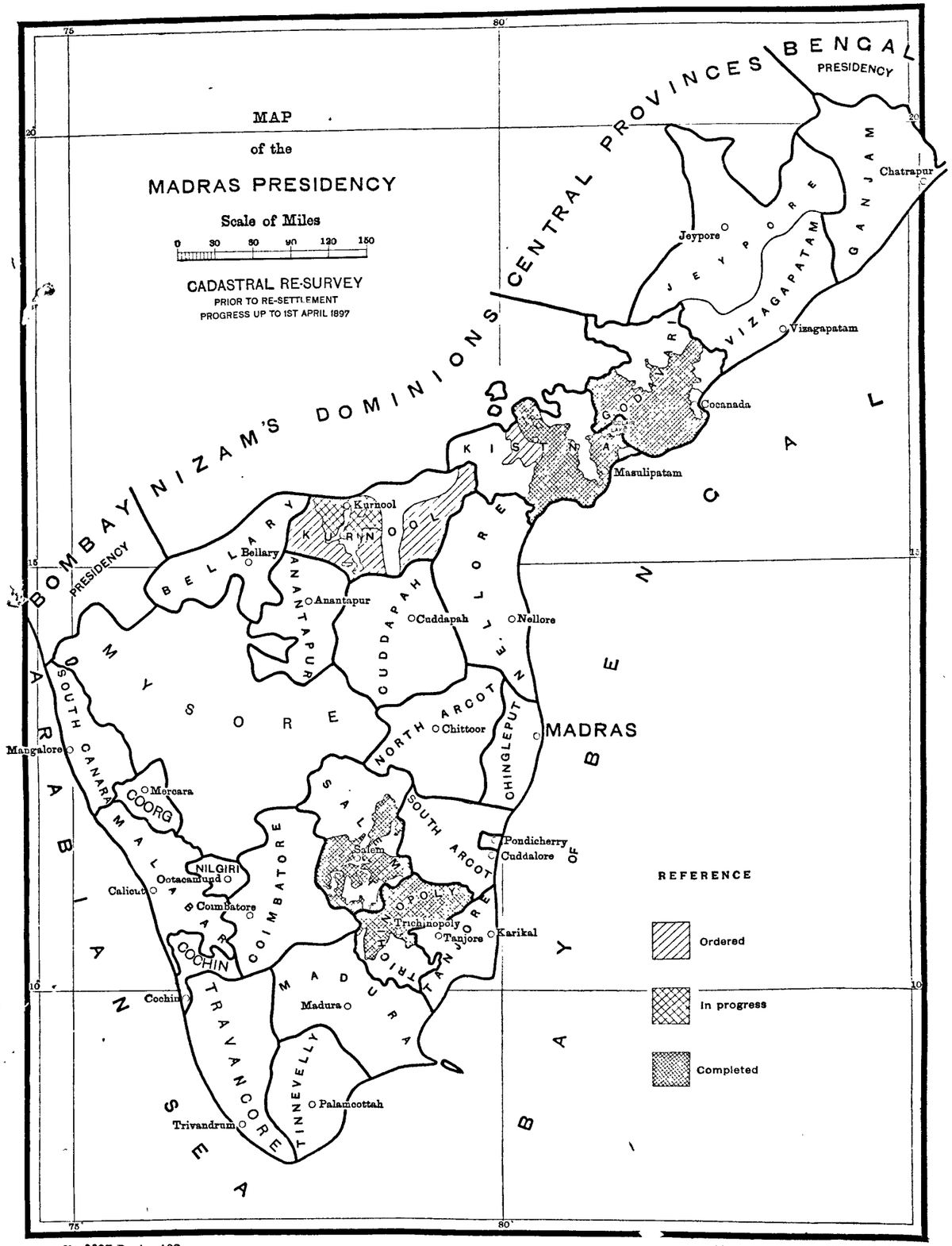
6. The Revenue Inspector should be held responsible for the punctual attendance of karnams in their respective firkas and they should keep an attendance roll which should be submitted daily to the Tahsildar for initials.

24th July 1896.



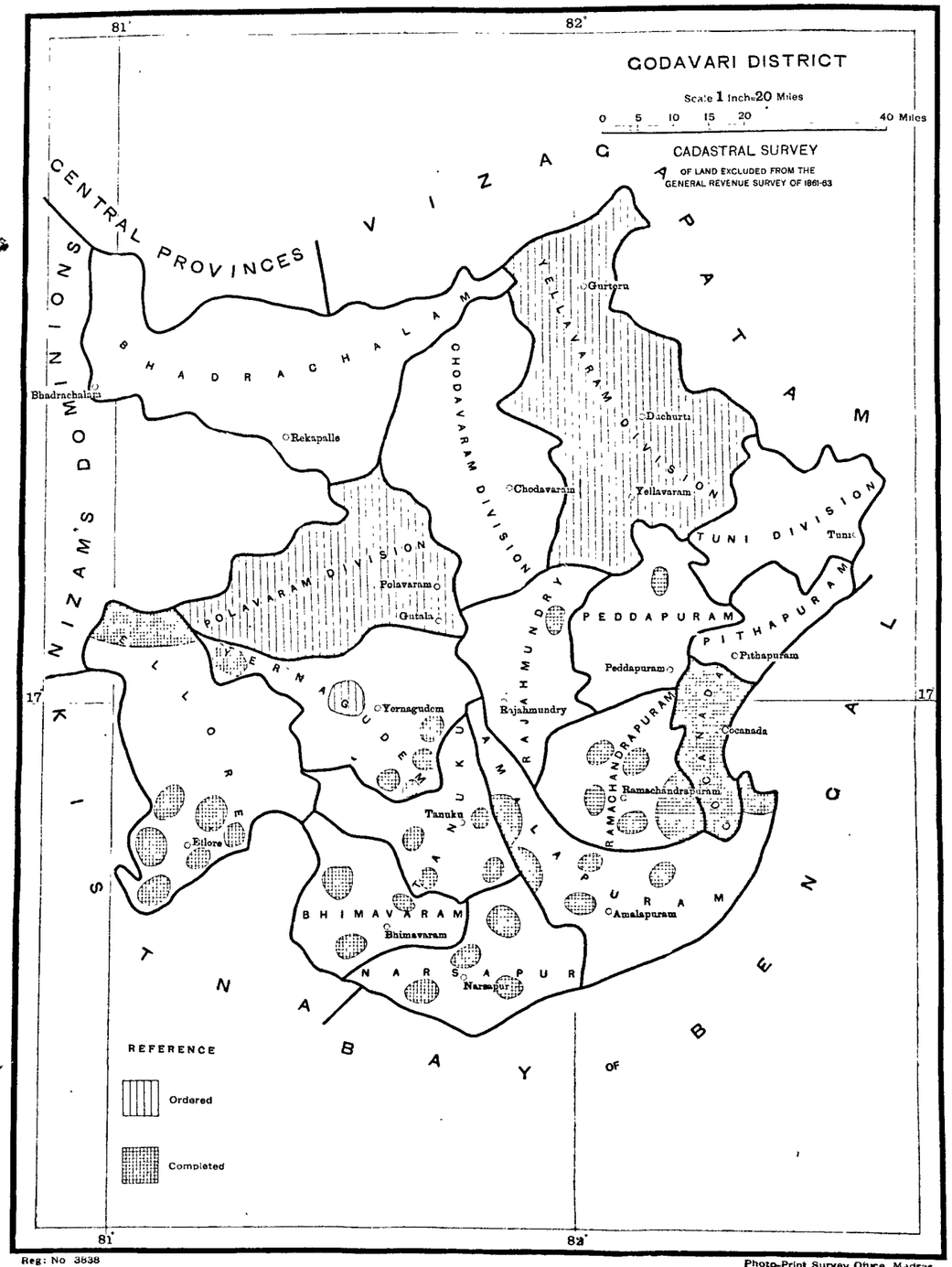
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1897.



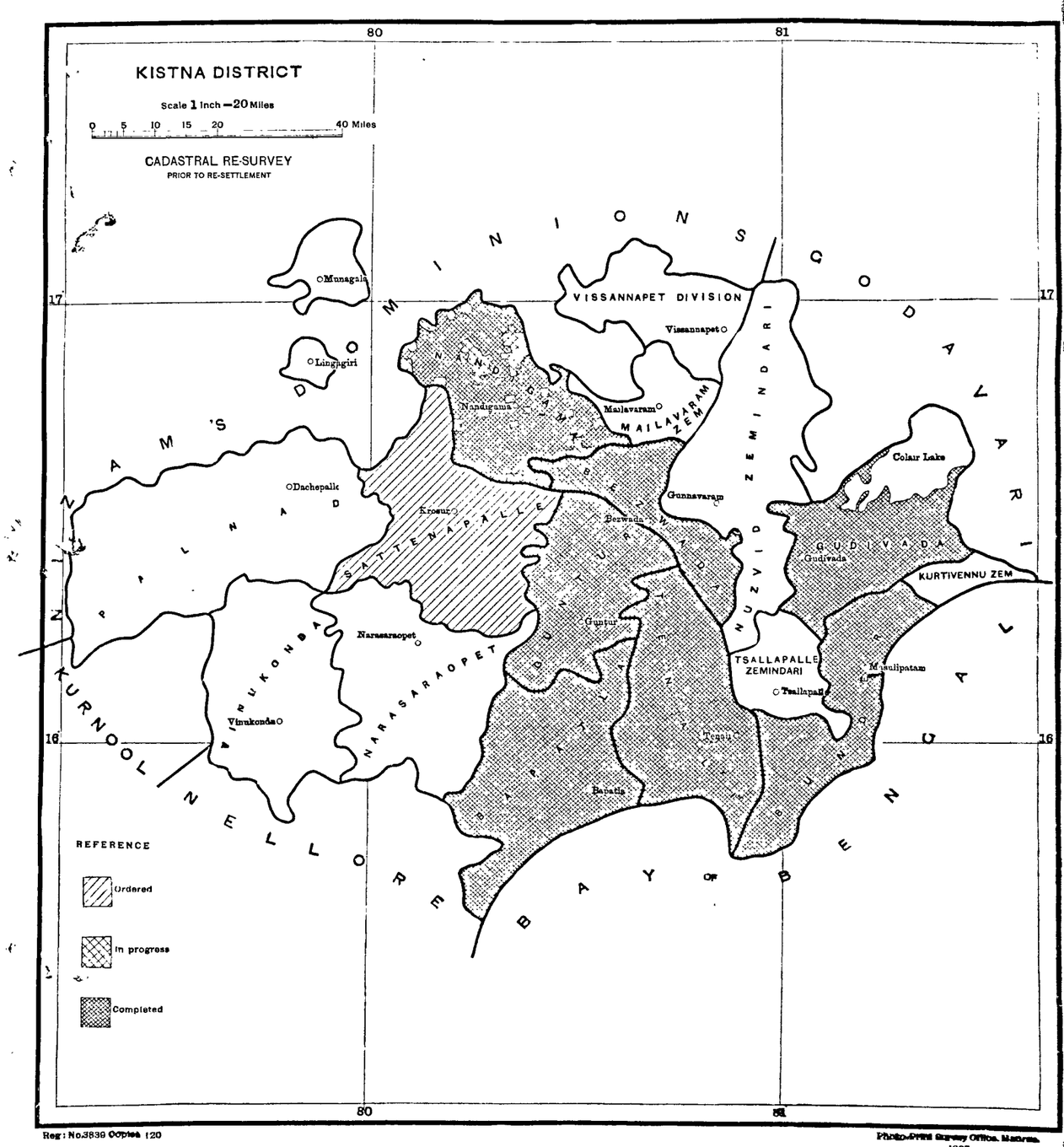
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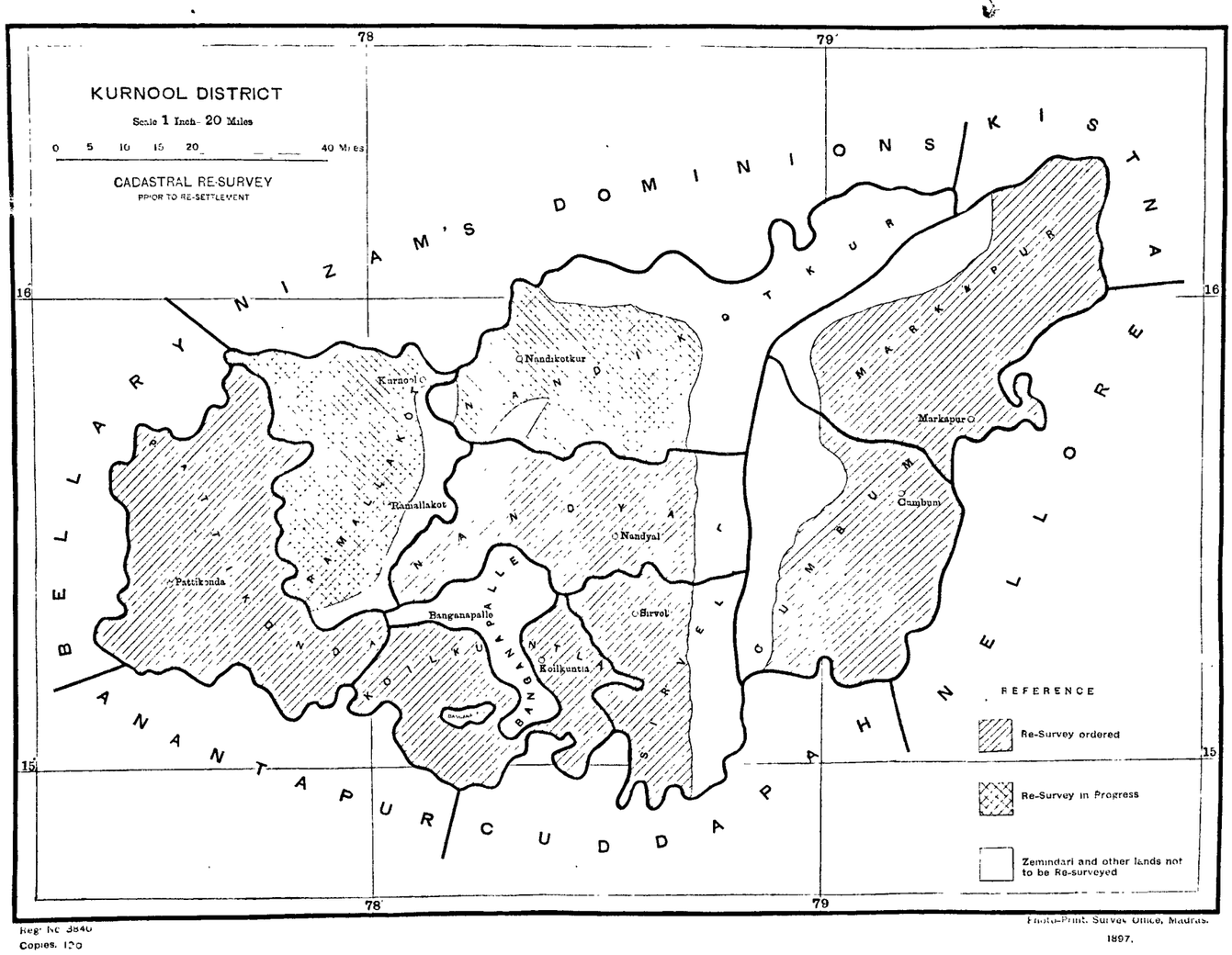
KURNOOL DISTRICT

Scale 1 Inch- 20 Miles

0 5 10 15 20 40 Miles

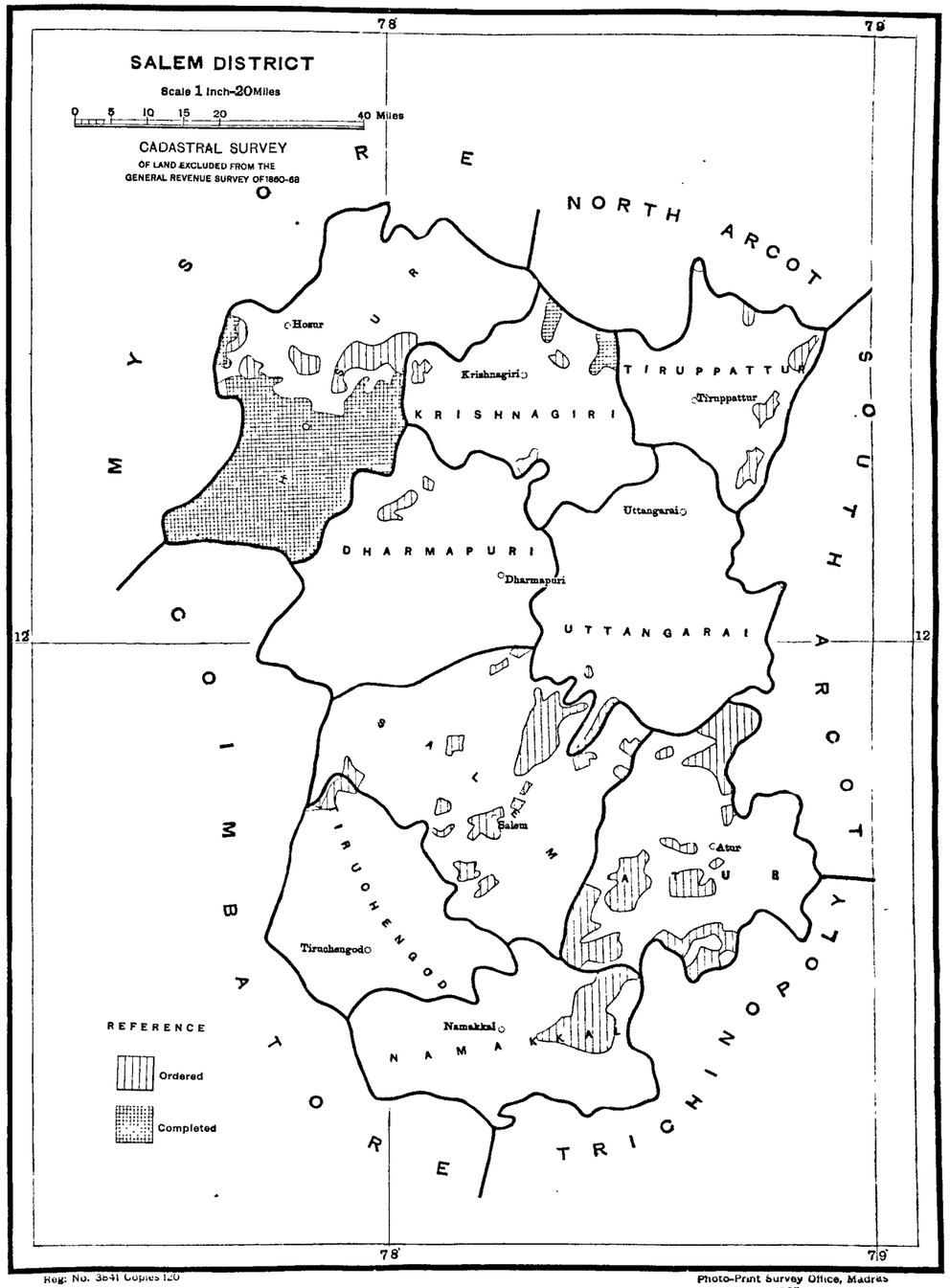
CADASTRAL RE-SURVEY

PRIOR TO RE-SETTLEMENT



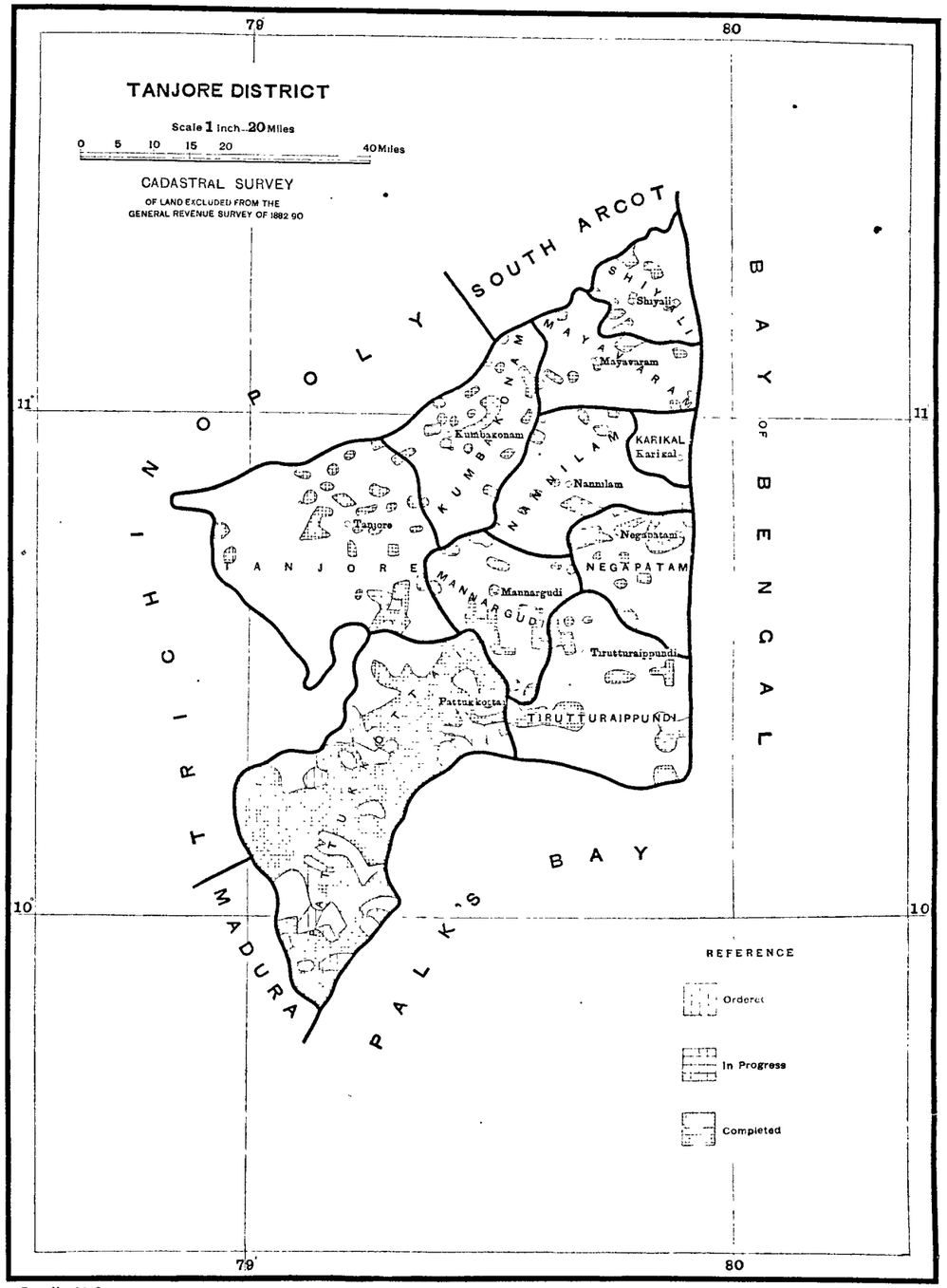
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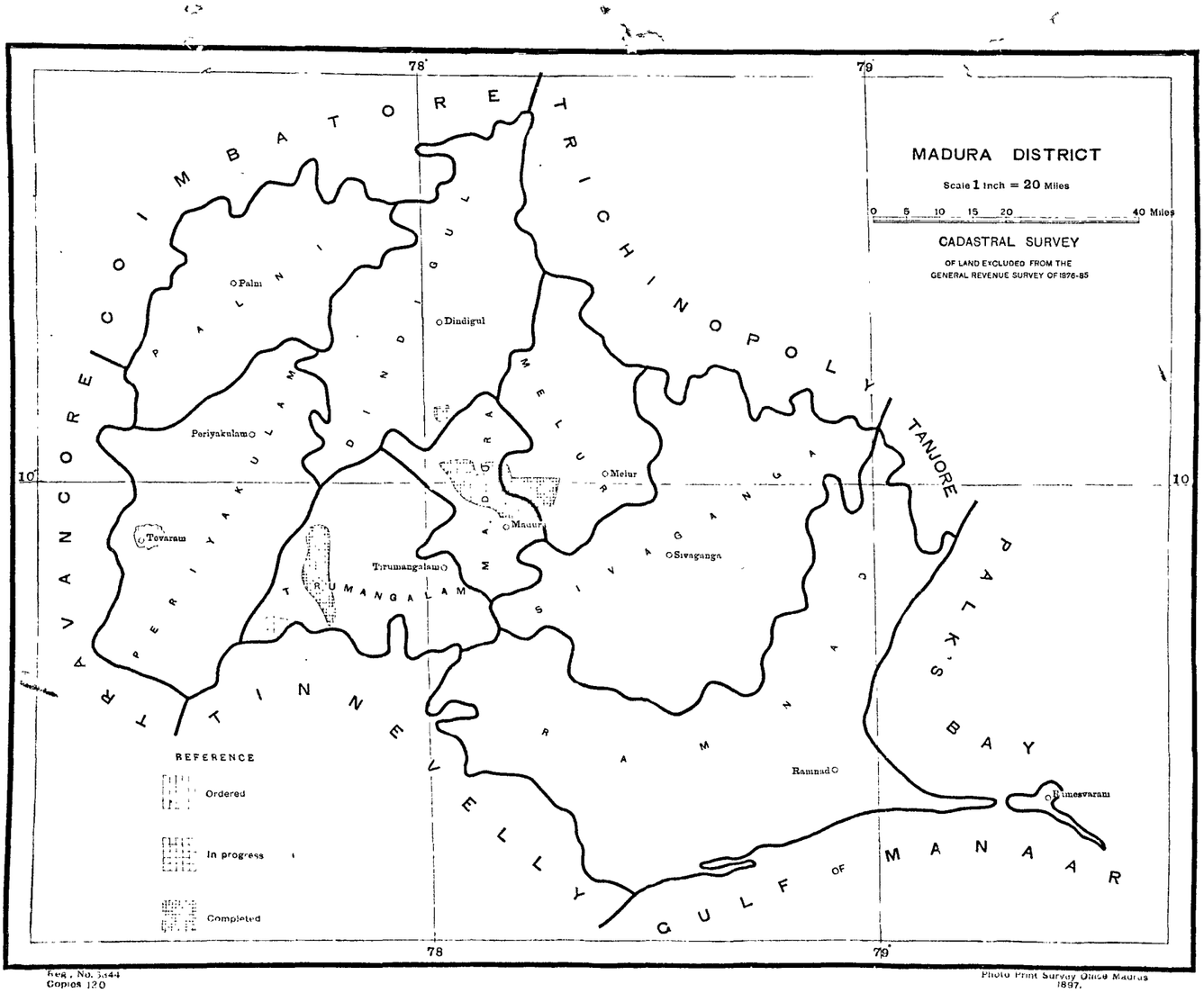
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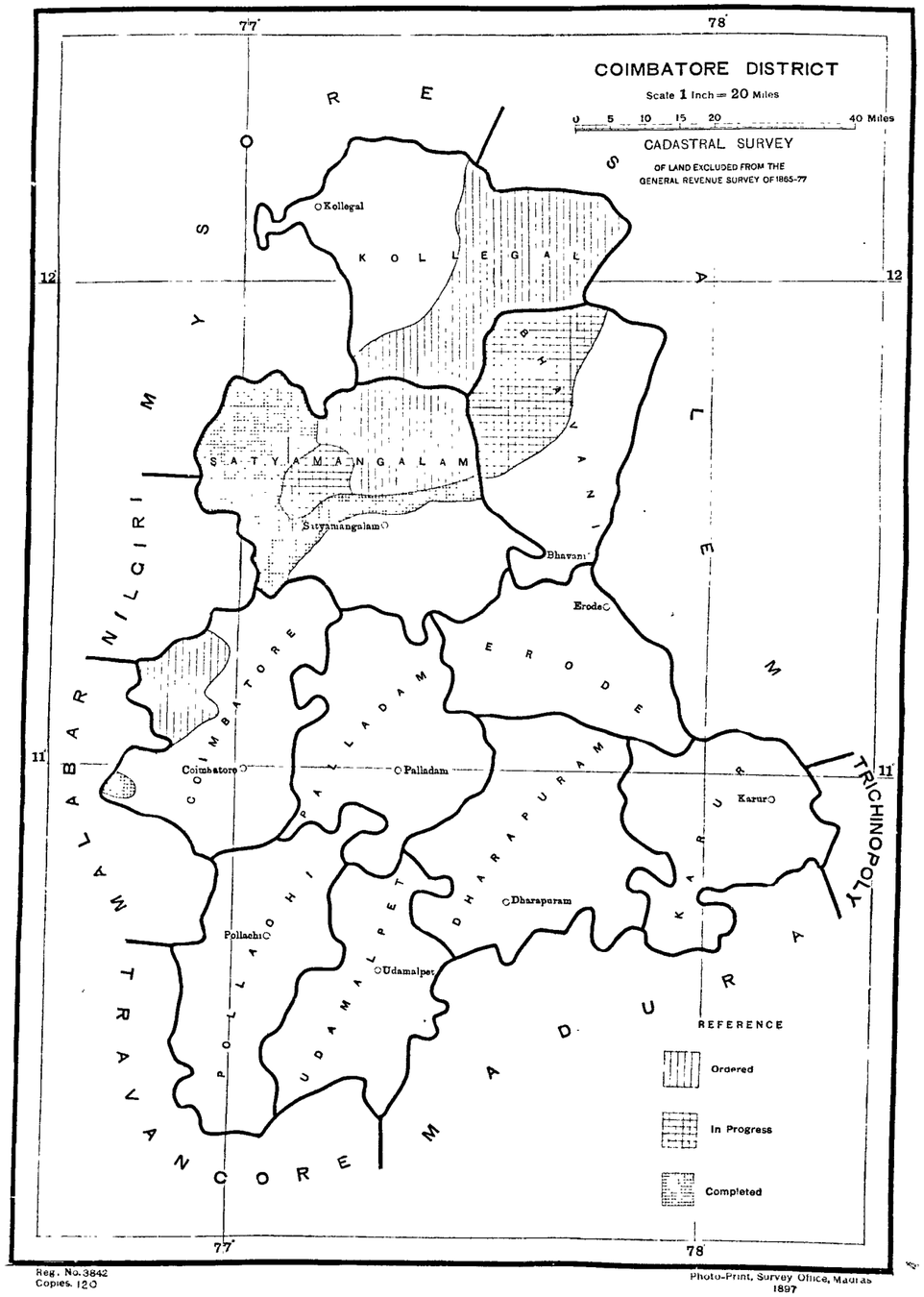
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Photo Print Survey Office Madras
1897.



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1897

Order—No. 842, Revenue, dated 5th October 1897.

Miscellaneous.

With his letter read above, Mr. Cardozo submits his report on the administration of the Madras Survey Department for the year 1896-97.

2. It has already been pointed out in the review of the previous year's report that the work, which, according to the forecast of the committee of 1887, the Survey Department was expected to turn out during the nine years ending 1895-96, was completed by the close of the latter year. The work on which the officers of the department have since been engaged has consequently been all new and consisted mainly of the maintenance of survey records and fresh surveys and resurveys, *i.e.*, initial surveys of tracts not included in the original programme but subsequently ordered to be undertaken for special reasons and resurveys of districts in which the marks originally planted had been partly or wholly obliterated and the records connected therewith not properly maintained.

3. *Surveys and Resurveys.*—In the report under review, the parties have been redistributed and renumbered with reference to the groups of districts into which the Presidency has been divided for the purposes of the maintenance of land records, and hence it is impossible to institute a detailed comparison of the party outturns during the year under review with those of the previous year. The total outturns of the two years under the several classes of survey are, however, capable of being compared and these are exhibited in the following statement:—

Class of survey.	Area surveyed. 1895-96. Sq. Mls.	1896-97. Sq. Mls.
Ordinary cadastral survey	1,095	531
Hill and jungle survey	933	1,856
Cadastral resurvey	1,692	1,074
Town survey	25	32
Total ...	3,745	3,493

The Government observes that the outturn of hill and jungle survey given in the above statement does not represent the area actually surveyed but only the area within which patches of cultivation have been surveyed. From the cost of the operations given in the present report it would also appear that the work for which credit was taken under the above head was ordinarily less difficult than the other classes of cadastral surveys which the department had been dealing with. Judged, therefore, by the total outturn and the relative difficulties of the kinds of work undertaken, the outturn of work during the year under review must be held inferior to that of 1895-96.

4. Another test of the year's work, however, lies in a comparison between the work done and the estimate framed by the Superintendent in paragraph 6 of the report for the previous year. The estimate in question was framed subject to the proviso that so far as resurvey was concerned its realization would depend upon the number of karnams or village accountants whose services could be spared by the Revenue Department, it being anticipated that these village officers would be able to carry out half of the field measurements. The subjoined statement shows how far the above estimate was realized and also exhibits the work still remaining to be done and the Superintendent's estimate of outturn for 1897-98:—

Class of survey.	Districts, &c.	Area remaining for survey at the end of 1895-96.	The outturn estimated by the Superintendent during 1896-97.	Actuals during 1896-97.	Balance at the end of 1896-97.	New area ordered to be taken up for survey after 1895-96.	Total area remaining to be surveyed under orders already issued.	Estimate for 1897-98.
1	2	3	4	5	6	7	8	9
		Sq. mls.	Sq. mls.	Sq. mls.	Sq. mls.	Sq. mls.	Sq. mls.	
Ordinary cadastral survey.	Town survey	232	104	32	200	..	200	60
	Gódávari	14 10	14	10	..	62	62	62
	Tanjore	501 499	501	392	107	..	107	107
	Madura	143 130	143	122	8	20	28	28
	Salt factories and miscellaneous (in Ganjám, Nellore, Chinglepat, Tanjore, Tinnevelly and Coimbatore).	9	..	7	2	4	6	6
	Total ..	890 880	762	563	317	86	403	263
Hill and jungle surveys.	Malabar	514	514	514	..	..	..	..
	South Canara	424 838	424	838	..	..	..	..
	Coimbatore	600	300	107	493	..	493	358
	Salem	620 660	320	279	381	..	381	381
	Gódávari	125 118	125	118	..	..	..	..
	Total ..	2,283 2,730	1,683	1,856	874	..	874	739
Cadastral resurveys.	Kistna	876	876	780	96	497	593	593
	Kurnool	4,710	1,406	294	4,416	..	4,416	1,000
	Total ..	5,586	2,282	1,074	4,512	497	5,009	1,593

Note.—The figures in ordinary type in column 3 are the approximate figures reported by the Superintendent in paragraph 5 of his report for 1895-96. Those in bold type are the revised figures calculated from the statements embodied in the present report.

5. The statement in paragraph 4 *supra* shows that, with the exception of the parties employed in Malabar and South Canara, no party worked up to the estimate. In Tanjore, it is reported that the survey of the chattram villages was delayed by opposition on the part of landholders; while in Kurnool, owing to agricultural distress and the consequent inability of karnams to take part in the work, no appreciable progress in the resurvey could be made. The differences between the estimates and actuals in other districts are not such as to call for any special remarks. In the matter of town surveys, however, the case is different, and the Government observes that the Superintendent has not offered any explanation for the very slow progress which was being made in this branch of survey work, the actuals during the year under review having been only 32 square miles, as against an estimated outturn of 101 square miles. Mr. Cardozo will now be requested to report whether there was any special reason for this small outturn.

6. It is observed that, if the Superintendent's estimate of outturn for 1897-98 is realized, all ordinary cadastral survey and the resurvey of the Kistna district will be completed by the end of that year.

7. *Central Office.*—The Government is glad to note that the work turned out in the Central Office by M.R.Ry. Ramasawmi Naidu, Assistant Superintendent, under the direct personal supervision of Mr. Cardozo was good, the area of village maps printed, 4,723 square miles, having been the highest on record and having exceeded the previous year's outturn by 1,692 square miles. It is also reported that there were no arrears of printing pending in the office at the close of the year.

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Revenue Department.

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