

161
ANNUAL
ADMINISTRATION REPORT
OF
THE FOREST DEPARTMENT
MADRAS PRESIDENCY,
FOR THE
TWELVE MONTHS ENDING 30TH JUNE 1895.
(1894-95.)

MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.

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PROGRESS REPORT

OF

FOREST ADMINISTRATION IN THE MADRAS PRESIDENCY

FOR THE TWELVE MONTHS ENDING WITH 30TH JUNE 1895.

CHAPTER I.

INTRODUCTORY.

Rules under the Forest Act.—Revised rules under section 26, and general rules under sections 21 (h) and 26 (f) for all districts except Nilgiris were passed during the year. A set of general rules under sections 35 and 36 for regulating transit of timber awaits final sanction.

2. *Other minor regulations.*—Improved rules were issued regarding the capture of elephants on the pit-fall system. The rules for regulation of quarrying and mining for minerals were amended. Draft rules to facilitate the remittance of forest revenue by means of postal money orders were approved and published.

3. *Forest Code.*—The revised edition of the Forest Code was approved and, with the exception of the account forms, introduced from 1st January 1895. The introduction of the account forms was deferred until the commencement of the current forest year (i.e., 1st July 1895).

4. *Principal administrative changes.*—During the year under report the Government of India issued a resolution enunciating the principles which should be observed in the administration of all State forests in British India. The main object aimed at was the relaxation of restrictions imposed upon grazing and upon the use of minor produce generally. These principles had been anticipated in this Presidency and the necessary provision for giving effect to them had also been made in the revised rules under section 26 of the Forest Act. Doubts having been entertained regarding the applicability to this Presidency of certain suggestions of the Government of India, particularly with reference to the management of minor forests and grazing grounds by the resident cultivators independently of the Forest Department, a reference was made to the Government of India. Finally it was decided to adhere to the policy laid down in 1890 and to retain under the department all classes of forest reserves, the minimum area of each reserve being ordinarily fixed at one square mile.

5. *Tours of Forest Member.*—The subjoined table shows the tours made by the Forest Member of the Board during the year under report:—

Name of Forest Member.	Period of charge.	Duration of tours.	District visited.	Purpose of journey.
The Hon'ble Mr. J. Sturrock.	1st July 1894 to 8th August 1894.	23rd to 29th July 1894.	Kurnool ..	Inspection of the Nallamalai reserved forest and conference with Collector and District Forest-officer on forest matters.
Mr. H. M. Winterbotham.	9th August 1894 to 8th November 1894.			
The Hon'ble Mr. J. Sturrock.	9th November 1894 to 30th June 1895.	16th December 1894 to 1st January 1895.	Kurnool ..	Enquiry into matters of Forest Administration.
		26th to 28th February 1895.	Coimbatore ..	Inspection of office of Forest Settlement-officer.
		15th to 20th March 1895.	North Arcot ..	
		15th to 20th April 1895.	Trichinopoly ..	
		8th to 18th April 1895.	Cuddapah ..	Forest inspection and conference with District Forest-officer.
		17th to 30th June 1895.	Nilgiris and Coimbatore.	

6. *Conservators' Inspections.*—The following abstract shows the time spent in camp by each Conservator and the names of districts visited or inspected by them. Their touring was satisfactory :—

Circle.	Name of Conservator.	Number of days in charge.	Number of days spent in camp.	Districts visited.	Districts for which inspection notes were submitted to the Board.	District Forest-offices inspected.
Northern	Mr. A. W. Peet ..	150	85	All the districts.	Ganjām and Bellary.	
	" E. D. M. Hooper.	175	166			
	" E. P. Popert ..	40	..			
Central	" E. P. Popert ..	274	158	Do.	Salem, Nellore, Cuddapah and North Arcot.	All.
	" A. W. Peet ..	91	21			
Southern	Mr. J. W. Cherry ..	299	191	Do.	All the districts except Nilgiris.	All the District Forest offices except Nilgiris.
	" E. D. M. Hooper..	66	54			

In addition to the inspection of the districts in the Central Circle, Mr. Popert visited, under instructions from the Board, the Coimbatore and Nilgiri districts in the Southern Circle to report upon the teak forests.

7. *Touring of District Forest-officers.*—With few exceptions all District Forest-officers spent half the year in camp. Satisfactory explanations have been afforded for short touring.

8. *Inspection of Range offices by District Forest-officers.*—The rule requiring District Forest-officers to inspect Range offices at least once in every half year was strictly observed in the following districts only :—*Vizagapatam, Kistna, Chingleput, South Arcot, Trichinopoly, Salem, Tinnevely, North and South Coimbatore, Nilgiris, South Malabar and South Canara.* Instructions have been issued directing strict attention to the rule in future.

9. *Audit of the accounts of the District Forest office.*—The Inspecting staff attached to the Accountant-General's office audited the accounts of all districts except Vizagapatam, Anantapur, Malabar and South Canara.

10. *Reorganization of the Subordinate staff.*—The proposals for the reorganization of the subordinate executive staff are still under consideration. At the close of the year it was not known how far the abandonment of reserves under one square mile would affect the proposals. It is certain no large reduction will be possible, as the scale was prepared before the Forest Department was ordered to undertake the management and control of grazing grounds and village forests (now included in reserves). The interests both of the department and of the general public demand a speedy settlement of this long-pending question which is now unavoidably postponed, until the revised scheme for further reservation in all the districts has been duly considered. The sanction for the reorganization of the District Forest office establishments was received at the close of the year.

The question of clerks for Range offices has yet to be disposed of. The advisability of clerical assistance is indisputable.

Of the twenty-two District Forest charges, sixteen were held by Deputy Conservators, two by Assistant Conservators, and the rest by extra Assistant Conservators on the last day of the year.

CHAPTER II.

AREAS AND BOUNDARIES.

11. The areas of each class of forest at the beginning and at the end of the year under report as well as the changes during the year are shown in the subjoined statement :—

ABSTRACT A.—Classes and areas of forests.

Classes of forests.	Area on 1st July 1894.	Added during the year 1894-95.	Excluded during the year 1894-95.	Net increase or decrease.	Area on 30th June 1895.
<i>Northern Circle.</i>					
Reserved forests	3,608	(a) 230	(b) 3 (c) 2	+ 227	3,835
Do. lands	2,385	(b) 2 (c) 541 (d) 2	(d) 230 (e) 20 (f) 79 (g) 1 (h) 2	+ 211	2,596
Total ..	5,993	775	337	+ 438	6,431
<i>Central Circle.</i>					
Reserved forests	4,296	(a) 295 (b) 15	(b) 11 (c) 1	+ 298	4,594
Do. lands	2,179	(b) 15 (c) 359	(d) 30 (e) 295 (f) 30 (g) 13 (h) 1	+ 5	2,184
Total ..	6,475	684	381	+ 303	6,778
<i>Southern Circle.</i>					
Reserved forests	2,882	(a) 155	(b) ..	+ 155	3,037
Do. lands	2,660	(b) 10 (c) 67	(b) 15 (c) 155 (d) 23	— 116	2,544
Total ..	5,542	232	193	+ 39	5,581
<i>Total.</i>					
Reserved forests	10,786	(a) 680 (b) 15	(b) 14 (c) 1	+ 680	11,466
Do. lands	7,224	(b) 27 (c) 967 (d) 2	(b) 47 (c) 680 (d) 50 (e) 115 (f) 2 (g) 2	+ 100	7,324
Grand Total ..	18,010	1,691	911	+ 780	18,790

(a) Transferred from reserved lands. (b) By rectification of area. (c) Newly constituted reserved lands.
(d) Transferred to reserved forests. (e) Excluded at Settlement. (f) Unreserved or disafforested.
(g) By rounding off fractions. (h) Transferred from one district to another.

The increase of 780 square miles in the total area reserved under the Forest Act is due to the fact that large areas were notified as reserved lands during the year chiefly in the districts of Vizagapatam, Kurnool and Anantapur in the Northern Circle and Nellore, Cuddapah and North Arcot in the Central Circle. The addition to the area of reserved forests during the year was chiefly in Bellary and Anantapur in the Northern Circle; Nellore, South Arcot and Salem in the Central Circle and Nilgiris in the Southern Circle.

12. The following statement exhibits the area of each district and of the reserved forests and reserved lands therein :—

ABSTRACT B.—District areas and forest reserves.

District.	1	2	3	4	Particulars of remaining area (column 3—column 4).		Reserved forests and reserved lands.		Percentage of column 10 to column 3.	Percentage of column 10 to column 7.
					Unoccupied, culturable, and forest areas.	Area for which returns are not avail- able.	Reserved forests under Act V of 1882.	Total of reserves, columns 8 and 9.		
		SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.		
<i>Northern Circle.</i>										
Ganjam	..	8,369	4,539	586	1,258	2,695	136	576	12.6	14.5
Vizagapatam	..	17,242	1,454	244	227	983	58	440	29.7	35.7
Godavari	..	8,397	4,394	1,419	654	2,321	521	1,002	22.8	33.6
Kistna	..	7,514	6,059	3,085	1,950	1,024	643	1,112	18.3	37.3
Kurnool	..	5,900	7,310	2,038	2,284	2,988	1,737	2,232	30.6	42.3
Bellary	..	5,274	5,687	2,668	2,073	956	360	204	9.9	18.6
Anantapur	..	60,563	84,507	11,910	2,317	867	380	513	10.1	16.1
Total	..	..	..	..	..	..	..	..	..	..
<i>Central Circle.</i>										
Cuddapah	..	8,723	8,290	2,068	5,447	775	1,250	1,018	27.3	36.4
Nellore	..	8,765	4,634	1,678	2,271	585	417	235	14.3	22.8
Chingleput	..	2,842	2,143	1,003	1,030	110	137	42	11.1	20.9
North Arcot	..	7,615	4,087	1,339	2,563	185	966	170	27.8	41.3
South Arcot	..	5,216	5,090	2,415	2,469	206	464	402	17.0	32.3
Salem	..	7,628	5,477	2,070	2,886	521	1,089	258	24.5	39.5
Trichinopoly	..	3,631	2,818	1,674	961	183	192	45	8.4	20.7
Tanjore	..	3,709	3,136	1,763	575	798	19	83	1.0	2.4
Total	..	..	..	..	..	..	..	..	..	..
<i>Southern Circle.</i>										
South Canara	..	3,902	3,902	668	3,215	19	114	1,026	29.2	35.2
Malabar	..	5,587	5,582	1,548	4,017	17	190	415	10.8	14.9
Nilgiris	..	957	957	325	632	..	365	96	47.1	71.3
Coimbatore	..	7,860	7,614	3,778	2,283	1,553	1,425	879	30.2	60.0
Madura	..	8,812	3,348	1,593	1,286	619	542	109	19.4	37.0
Tinnevely	..	5,334	3,619	2,288	674	657	411	19	11.8	32.3
Total	..	..	..	..	..	..	..	..	..	..
Grand Total	..	..	..	..	..	..	..	..	..	..

Note.—The figures in columns 2 to 7 were taken from the annual returns of the Settlement Department (Board of Revenue) for 1893-94.

The figures in columns 2 to 7 of the foregoing statement have been revised with reference to the statistical returns of the Settlement Department of the Board for 1893-94. There has been an increase of a little over 4 per cent. in the area reserved.

13. The subjoined statement shows the area finally constituted reserved forests in each district:—

ABSTRACT C.—Reserved Forests in square miles.

Districts.	Prior to 1893-94.	During 1893-94.	During 1894-95.	Total.
<i>Northern Circle.</i>				
Ganjam	114	19	3	136
Vizagapatam	24	5	29	58
Godavari	442	56	23	521
Kistna	633	(a)-6	(b)-3	643
Kurnool	1,726	(b) 8	3	1,737
Bellary	214	71	75	360
Anantapur	101	201	78	380
Total	3,254	354	227	3,835
<i>Central Circle.</i>				
Cuddapah	965	239	(b)+9	1,250
Nellore	341	2	74	417
Chingleput	155	14	28	197
North Arcot	688	249	(c)-1	966
South Arcot	385	22	57	464
Salem	967	60	(d)-5	1,089
Trichinopoly	190	..	2	192
Tanjore	16	3	..	19
Total	3,707	589	298	4,594
<i>Southern Circle.</i>				
South Canara	100	6	8	114
North Malabar	151	..	..	151
South Malabar	39	..	..	39
Nilgiris	233	15	107	355
North Coimbatore	497	341	21	859
South Coimbatore	566	..	..	566
Madura	479	45	18	542
Tinnevely	410	..	(e)+1	411
Total	2,475	407	155	3,037
Grand Total	9,436	1,350	680	11,466

(a) Three square miles were added, but nine square miles had to be deducted in consequence of rectification of area.

(b) By rectification of area.

(c) Disforested.

(d) Six square miles were added, but eleven square miles had to be deducted in consequence of rectification of area.

(e) By rounding off fractions.

In Cuddapah six blocks, with an area of 237 square miles, were actually notified under section 16 of the Act during the period under report, but with effect from dates falling within the current year. In North Arcot the outturn would have been larger had completion of settlement not been delayed by appeals from the Forest Settlement-officer's decisions. In North Coimbatore the final notifications for certain large blocks, which were under revision, were not ready for publication within the year.

14. The progress of forest settlement is shown in the following statement:—

ABSTRACT D.

Circle.	Area of reserved lands—vide Abstract A above.					Area brought under Chapter II of the Madras Forest Act.				
	On 1st July 1894.	Added during 1894-95.	Total.	Excluded during the year mainly by reason of constitution as reserved forests.	Balance at the end of the year.	Area notified under section 4 and not constituted reserved forests on 1st July 1894.	Added during 1894-95.	Total.	Constituted reserved forests during 1894-95.	Balance notified under section 4 but not constituted reserved forests.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Northern ..	2,385	545	2,930	334	2,596	{ 1,907 (a) - 3	254	2,158	227	1,931
Central ..	2,179	374	2,553	369	2,184	{ 1,893 (a) + 4 (b) - 218	378	2,057	298	1,759
Southern ..	2,660	77	2,737	193	2,544	{ 1,518 (b) + 11	249	1,778	155	1,623
Total ..	7,224	996	8,220	896	7,324	5,112	881	5,993	680	5,313

(a) By rectification of area.

(b) Shown or omitted wrongly in previous year's return.

15. The statement in Appendix A shows districtwar the total area brought under settlement up to the end of the year, the area constituted reserved forests and the particulars of the balance under settlement on the 30th June 1895.

At the beginning of the year under report 758 blocks covering an area of 5,318 square miles which were previously notified as proposed reserves under section 4 remained to be finally constituted reserved forest. During the year 203 blocks with an area of 675 square miles were notified under section 4.

The totals for the Presidency, as compared with those of the previous year, are as follows :—

	1893-94.		1894-95.	
	Number of blocks.	Area in square miles.	Number of blocks.	Area in square miles.
(a) Areas notified as proposed reserves under section 4 and remaining to be constituted reserved forest at the beginning of the year.	675	6,082	758	5,318
(b) Notified under section 4 during the year	280	586	203	675
(c) Total of (a) and (b)	955	6,668	961	5,993
(d) Deduct area finally notified as reserved forest under section 16 during the year.	197	1,350	225	680
(e) Area which remained to be finally notified at the end of the year.	758	5,318	736	5,313

The particulars of balance of area under settlement shown under item (e) above are as follows :—

	1893-94.		1894-95.	
	Number of blocks.	Area in square miles.	Number of blocks.	Area in square miles.
(a) Notified under section 16 during the year but with effect from dates in the following year.	44	128	38	361
(b) With Board or Government awaiting publication of notification under section 16.	69	314	145	1,009
(c) Returned by Board for revision and remaining either with Collector, District Forest-officer or Forest Settlement-officer.	74	1,878	51	698
(d) Total settled and reported on	187	2,320	234	2,068
(e) Settled but not reported on	254	1,608	184	1,130
(f) Settlement proceeding	317	1,390	318	2,115

Of the 184 blocks comprising 1,130 square miles shown as settled but not reported on

- 31 were awaiting preparation of maps ;
- 13 " " disposal of appeals ;
- 11 " " expiration of time prescribed for appeals ;
- 89 " " preparation or submission of final report by Forest Settlement-officers or Collectors ;
- 13 " " replies to references made by Forest Settlement-officers.
- 27 " due to other causes.

318 blocks comprising 2,115 square miles were pending with Forest Settlement-officers in various stages of settlement.

As regards the pendency of blocks, no progress was made in notifying the long pending blocks (i.e., those notified prior to 1890-91) in *Ganjám*. This was mainly due to the postponement of settlement in the case of several reserves in the *Berhampore* taluk, which include lands commanded by the *Rushikulya* canal and to the want of a Special Forest Settlement-officer for the district. In *North Malabar* the three old blocks pending have been settled. The submission of final reports is delayed in the case of *Peria* and *Kanoth* forests pending negotiations for the exchange or purchase of certain hills. In the case of *Padri* a question regarding its boundary has still to be determined. In *South Malabar* the seventeen old blocks constitute what are known as the *Amarampalem*, *Nilambúr* and *Attipadi* valley forests. The submission of final reports is delayed pending disposal of appeals. In the other districts the progress made in this direction is more or less satisfactory. In *Gódvári* the old blocks are pending on account of either demarcation of portions of blocks excluded at settlement or of claims in certain cases having still to be enquired into by the Forest Settlement-officer. In *Kistna* there are only three blocks of over four years' standing, two of which await disposal of appeals, while the other is pending disposal of claims by the Forest Settlement-officer. The only block in *Kurnool* was the *North Dhone* reserve, the final notification of which is delayed for want of a map. Of the seven old blocks in the *Bellary* district, final notifications for four blocks were received towards the close of the year, of which three have since been notified. Of the three others, two were returned to the Collector for revision and the report for the third has not yet been received. In *Anantapur* there is only one block pending since 1884-85. The draft notification for this block, received in the Board's office in February last, has since been gazetted. Of the two old blocks in *Nellore*, one awaits the District Court's decision in a compensation case and the settlement records of the other received in May last are pending scrutiny in the Board's office. There are eleven old blocks in *Salem* and draft final notifications therefore were received at the close of the year under report. Of the nine old blocks in *Cuddapah*, six have since been notified and three are pending with the Board.

Final notification for the one old block in *North Coimbatore* was received in the Board's office towards the close of the year. A statement showing the cause of the pendency of the blocks not yet constituted reserved forests is given in Appendix B.

As compared with the corresponding figures for 1894, the number of blocks pending on the 30th June 1895 shows a decrease while the area is nearly the same :—

Date.	Settled and reported on.		Under settlement.		Total.	
	Number.	Area.	Number.	Area.	Number.	Area.
30th June 1894	187	SQ. MLS. 2,320	571	SQ. MLS. 2,998	758	SQ. MLS. 5,318
30th June 1895	234	2,068	502	3,245	736	5,313

16. *Selections for further reservation.*—The progress in selections for reservation is as follows :—

In *Ganjám* the areas have yet to be selected in the agency tract "*Pondokhol*" recently placed under the Forest Act. In *Vizagapatam* 130 square miles have been selected by the Collector in the *Golgonda* and *Pálkonda* taluks, but the necessity for this addition has yet to be explained. In *Gódvári* reservation is complete. In *Kistna* the question of notifying extensions to existing reserves of less than one square mile and of abandoning portions of other reserves which include lands affected by certain irrigation projects is under consideration and, until this is decided, the exact area to be reserved cannot be determined. In *Kurnool* satisfactory progress was

made during the year and only about 35 blocks still remain to be selected. In *Bellary* selection is complete in all the taluks except Hospet and Kudlighi taluks; in the former the result of a suit regarding the ownership of some hills and in the latter the Conservator's advice regarding the advisability of taking up further areas have to be awaited. In *Anantapur* the selections made by the subordinate officers are awaiting the inspection of the District Forest-officer. In the *Nilgiris*, the selections in Todanad and Kundanad are in progress; in Paranginad, the work will be taken up after the proposals for Todanad are approved. Arrangements are being made to take up the work in the South-East Wynaad; as regards the plateau, there is no urgency as under no circumstances is forest being alienated. Selection is practically completed in *Chingleput*, *North and South Arcot*, *Trichinopoly*, *North and South Coimbatore*, *Madura*, *Tinnevelly* and *South Malabar*. In *Cuddapah*, *Nellore*, *Salem* and *South Canara* the work is in different stages of progress.

17. With regard to the adequacy of reservation all that can be said is that schemes have been carefully prepared for most districts, though they are still under preparation in a few. The progress made in working out these schemes has been noted above, and when settlement has been completed, the area under reservation will comprise all that could be secured without unduly trenching on the areas available for village grazing and the extension of cultivation. Of course there are some districts in which the area selected for reservation is much less than it would have been if the work had been taken in hand at the beginning of the century, but as regards the Presidency as a whole it may confidently be said that the reserved area will be adequate for all requirements which ought to be met by State Agency though many of the forests will require years of rest and careful treatment before they can become financially profitable.

18. *Outturn of work by the Special Forest Settlement-officers.*—The work turned out by the Special Forest Settlement-officers is shown in the subjoined abstract:—

ABSTRACT E.—Outturn of work by Special Forest Settlement-officers during 1894–95.

Name of Special Forest Settlement-officer.	Districts.	Issue of proclamation after notification under section 4.		Settlement of claims.		Report after settlement submitted.		Final notification proclaimed.		Cost.
		Number of blocks.	Area.	Number of blocks.	Area.	Number of blocks.	Area.	Number of blocks.	Area.	
1	2	3	4	5	6	7	8	9	10	11
Messrs. J. T. Lever and R. H. L. Lushington.	Gōdāvari	(a)	SQ. M.	3	50	4	42	..	..	11,616
	Kistna	(a)	..	19	20	(b)	..	..	..	
	Kurnool	(a)	..	4	71	2	29	..	..	
	Total	..	..	26	121	26	71	..	..	
Mr. E. A. Smith	Anantapur	10	36	7	22	7	22	5	16	11,794
	Bellary	5	16	33	97	33	97	27	73	
	Nellore	16	17	23	44	21	42	..	..	
	Total	31	69	63	163	61	161	32	89	
Mr. W. C. McMurray ..	Cuddapah	17	197	6	40	19	532	9	259	11,360
	North Arcot	10	26	14	42	9	35	9	30	
	South Arcot	12	24	56	137	52	96	16	21	
	Salem	15	46	12	28	18	60	6	77	
	Total	54	293	88	247	98	723	40	387	11,360
M.R.By. C. Raju Sastri ..	South Arcot	..	..	4	121	8	158	5	63	10,407
	Tanjore	..	..	..	..	..	..	..	..	
	Trichinopoly	1	3	8	..	5	1	1	1	
	Madura	..	..	9	11	12	7	3	6	
	Tinnevelly	24	(b)	2	..	..	..	..	..	10,407
	Coimbatore	14	18	13	222	9	15	3	20	
	Total	39	21	36	360	34	181	12	90	
	Grand Total	124	383	213	891	219	1,136	84	566	45,177
In 1893–94		213	437	163	662	132	938	112	742	44,291

(a) The Forest Settlement-officer states that information relating to blocks proclaimed is not available from records.
(b) Area reported not to be available.

The work compares favourably with that done in the preceding year. Both in regard to the number of blocks in which claims were settled and of those for which reports were submitted, Mr. McMurray has done more work than any other officer. In May 1895 Mr. Lever was replaced by Mr. R. H. L. Lushington, Assistant Superintendent of the Madras Survey Department, whose services were placed at the disposal of the Board in the Forest Department.

19. *Outturn of Forest Settlement work by the Revenue Divisional officers.*—The forest settlement work disposed of by the Revenue Divisional officers is shown below:—

ABSTRACT F.—Forest settlement work done by Revenue Divisional officers.

District.	Name of officer.	Blocks pending with Forest Settlement officers at the beginning of 1894–95.		Added during 1894–95.		Total.		Disposed of during 1894–95.		Blocks pending with the Forest Settlement officers at the end of 1894–95.	
		Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.
Ganjām (a)	Principal Assistant Collector	1	SQ. M. 2	..	SQ. M. ..	1	SQ. M. 2	..	SQ. M. ..	1	SQ. M. 2
	Senior Assistant Collector	25	40	1	1	26	41	..	..	26	41
	General Deputy Collector	24	395	1	2	25	397	..	..	25	397
	Total	50	437	2	3	52	440	..	..	52	440
Vizagapatam (a)	Principal Assistant Collector	7	63	..	..	7	63	5	22	2	41
	Head Assistant Collector	12	209	3	..	15	209	4	7	11	202
	Total	19	272	3	..	22	272	9	29	13	243
	Deputy Collector, Adōni ..	5	23	..	..	..	..	..	..	5	23
Chingleput	Mr. Pinto	67	46	3	1	70	47	63	45	(b) 7	2
	Mr. Tillanayagam Pillai ..	..	..	4	1	4	1	..	..	4	1
	Total	67	46	7	2	74	48	63	45	11	3
	Head Assistant Collector ..	3	2	33	1	36	3	3	2	33	1
Coimbatore	Head Assistant Collector {	4	8	..	..	4	8	..	..	4	8
	(c)–1	(c)–4	..	..	..	..	..	..	..	..	..
	Total	28	373	8	13	36	386	5	52	31	334
	Sub-Collector	2	42	..	..	2	42	..	..	2	42
Malabar	Head Assistant Collector ..	4	..	..	..	4	..	..	..	4	..
	Special Assistant Collector ..	15	171	..	..	15	171	3	52	12	119
	Deputy Collector, Wynaad ..	7	160	8	13	15	173	2	..	13	173
	Total	28	373	8	13	36	386	5	52	31	334
South Canara (a)	Head Assistant Collector ..	30	84	11	113	41	197	5	12	36	185
	General Deputy do. ..	5	23	1	101	6	124	..	..	6	124
	Total	35	107	12	214	47	321	5	12	42	309
		..	..	..	..	..	..	..	..	..	..

(a) These are the correct figures as now revised.

(b) These were transferred to Mr. Tillanayagam Pillai on the transfer of Mr. Pinto.

(c) Declared unreserved.

With the exception of Mr. Pinto who did very good work in the Chingleput district but little progress has been made. Arrangements have already been made for the transfer of the work in Ganjām and Vizagapatam to a Forest Settlement-officer and it is hoped that a similar arrangement may ere long be made with regard to South Canara.

20. *Reserved lands not brought under settlement.*—The area of reserved lands not yet brought under settlement is shown in Appendix C. The area is large in the Vizagapatam, Kistna, Kurnool, Bellary, Cuddapah, Salem, South Canara and Nilgiri districts. In *Vizagapatam* about 130 square miles were notified as reserved lands in the last month of the year and draft notifications under section 4 are promised to be submitted as soon as the areas have been demarcated and maps prepared. The question of reserving these tracts is under the Board's consideration, as if included, the total

area of reserved forests will exceed the maximum limit of reservation in the district approved by Government. The delay in *Kistna* was caused by the pressure of other work and by the illness of one of the range officers. In *Kurnool* the issue of notification under section 4 is delayed pending preparation of maps. In *Cuddapah* and *South Canara*, though the balances are still large, the progress made during the year was satisfactory. In the last-named district preliminary demarcation for about 237 miles is said to have been completed and draft notification under section 4 for 104 square miles were submitted before the close of the year. In *Bellary* and *Nilgiris* the reserved lands consist of leased forests and in *Salem* the delay is due to the boundaries of reserved lands requiring alteration before notification for settlement.

21. *Demarcation*.—The subjoined abstract shows the length of boundary lines preliminarily and permanently demarcated up to and during the year under report and the total and the average cost of the work:—

ABSTRACT G.—Demarcation work done during 1894-95.

Districts.	Preliminary.						Permanent.						Reclearing old lines, &c.			
	During 1893-94.			During 1894-95.			During 1893-94.			During 1894-95.			During 1893-94.		During 1894-95.	
	Miles.	Cost.	Average.	Miles.	Cost.	Average cost per mile.	Miles.	Cost.	Average.	Miles.	Cost.	Average cost per mile.	Miles.	Cost.	Miles.	Cost.
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
<i>Northern Circle.</i>																
Ganjam ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Vizagapatam ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Godavari ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kistna ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kurnool ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bellary ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anantapur ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,474	3,042	2 1 0	896	976	1 3 2	404	5,626	13 14 10	499	4,114	8 3 10	152	1,212	270	2,010
<i>Central Circle.</i>																
Cuddapah ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nellore ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chingleput ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Arcot ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Arcot ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Salem ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Trichinopoly ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tanjore ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	1,423	3,501	2 7 4	1,827	3,939	1 15 10	1,584	15,337	9 10 11	1,542	12,351	8 0 1	815	5,292	991	4,976
<i>Southern Circle.</i>																
South Canara ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Malabar ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Malabar ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nilgiris ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
North Coimbatore ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
South Coimbatore ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Madura ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tinnevely ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total ..	585	1,958	3 5 7	798	3,360	4 3 4	367	5,053	13 12 3	230	4,097	17 13 0	740	6,980	171	2,851
Grand Total ..	3,482	8,501	2 7 1	3,221	7,475	2 5 2	2,355	26,016	11 0 9	2,271	20,562	9 0 10	1,707	13,484	1,432	9,837

● The Collector has not explained the difference between the closing balance of 1893-94 and the opening balance of 1894-95.

(b) The total amount entered for 1894-95 and that in Form No. 64 against VIII (c) for the same year differ. The figures entered here are those of the Collectors and the figures in Form 64 represent those audited by the Accountant-General; hence the difference.

(c) Excludes pay of temporary watchers entertained at the end of the year.

(d) Demarcated by the Forest establishment. Rs. 3 only was spent for the purchase of a small quantity of lime.

(e) Only Rs. 14 was spent in demarcating the length, the rest relates to cost of forest letters, mounds, &c.

(f) Represents cost of erecting or repairing cairns, posts and aloe fencing.

(g) Represents cost of temporary establishments.

(h) Cost of sign boards.

(i) Includes cost of stone pillars, forest numbers, &c.

22. *Preliminary demarcation.*—In *South Malabar* no new selections were made during the year and hence no preliminary demarcation was undertaken. The small outturn in *Vizagapatam* is due to the fact that the selections were made too late in the year for their boundaries to be demarcated, and there were no other reserves requiring preliminary demarcation. The short work in *Kistna* is ascribed to other pressing work and to the illness of a range officer. The area demarcated in *Ganjām, Godāvāri, Nellore, North Malabar, Nilgiris* and *South Coimbatore* is commensurate with the selected area on hand. In *Chingleput* better progress was not made owing to the proposals for several of the selected blocks having been returned for rectification.

The small average cost per mile in *Kistna* is due to the fact that hardly any expenditure had to be incurred in cutting the boundary lines, and that in *Bellary* has not been explained. In *Anantapur* the work was done by the existing establishment and no extra cost was therefore incurred. The low rate in *South Arcot* and *Tinnevelly* is ascribed to the adoption of revenue survey stones as forest boundaries. In *Trichinopoly* the low rate for preliminary demarcation which in most cases consisted of stone and mud was due to the absence of growth. Little or no clearing was necessary. The rate in *South Canara*, although higher than in 1893-94 is low compared with other districts and the reason for this has not been stated. The increase in the cost rate in *North Malabar* has not been explained; but that in *South Coimbatore* was due to the clearance of a dense growth of prickly-pear in the *Mettupālaiyam* range.

23. *Permanent demarcation.*—The work turned out under this head was poor in *Vizagapatam, Kistna, Anantapur, South Canara, Nilgiris* and *Tinnevelly*. In *Vizagapatam* work was retarded owing to the illness and incompetence of one of the range officers. In *Kistna* better progress could not be made. It was found the boundary descriptions of old reserves were either inaccurate or the boundaries had been incorrectly marked on the ground. Checking and rectifying these errors demanded much time and attention. Revised notifications for several reserves have been submitted. The short work done in *Anantapur* and *Tinnevelly* has not been explained. The falling off in *South Canara* is ascribed to want of upper subordinates, the time of the range officers having been mainly occupied in selection, preliminary demarcation and settlement. In the *Nilgiris* the work turned out is in excess of that done in the previous year and the Acting Conservator considers that the progress made was satisfactory.

Compared with the cost rate in 1893-94, there was a striking increase in average cost per mile in *Anantapur, North and South Malabar* and *Nilgiris*. In *Anantapur* the increase in the cost rate is not real, as the amount includes the cost of stone pillars put up along 100 miles of forest boundary, while the latter length is not included in calculating the rate. The actual average cost is reported to be only Rs. 4-8-0. The increase in *North Malabar* is due to the inclusion of a new item, viz., the cost of putting up sign boards. The rate in *South Malabar* was enhanced by the entertainment of a special establishment for demarcation and by the inclusion of the cost of replacing the missing stones along previously permanently demarcated boundary. In the *Nilgiris* the average cost has arisen on account of the heavy clearings which had to be made in certain reserves.

The nature of the permanent demarcation adopted in almost all the districts consists of a broad cleared line with stone or earth mounds where stone is not available. In some districts stone slabs or stone pillars are also adopted for boundary marks. The width of the cleared line varies according to the needs of the district. Generally it is from 10 to 15 feet but in *Tinnevelly* it is 18 to 20 feet and in *Nellore* 30 feet. The Acting Conservator, Southern Circle, Mr. Gass remarks in connection with the work on the *Nilgiris* that "it is not much use erecting cairns in places frequented by elephants and it would be advisable to demarcate by means of boards nailed on to trees at a sufficient elevation." It is observed that the Conservator, Southern Circle, has in regard to many districts in that circle omitted to give his opinion as to the system of final demarcation obtaining therein. Speaking generally for all the districts in the Presidency the system of demarcation is commensurate with the requirements of administration. As time and money permit, all roots will be removed from the cleared lines.

24. The total expenditure incurred during the year on all kinds of demarcation, including the reclearing of old lines, amounted to Rs. 37,874 against Rs. 39,421 as per audited accounts. The difference between the two sets of figures has not been explained by several of the Collectors. In the districts, for which explanation has been furnished, the discrepancy is due partly to the exclusion from the figures shown in Abstract G. above, of the cost of the temporary establishment specially entertained for demarcation and for surveys and working plans and of the amount recovered from proprietors of private forests on account of charges incurred in clearing common boundaries, items which are included in the Accountant-General's figures, and partly to the inclusion in Abstract G. of amounts of recoveries made from subordinates for bad work.

CHAPTER III.

SURVEYS AND WORKING PLANS.

25. The Survey of India Party continued to work during the year in the *Salem* and *North Arcot* districts. In addition the part of the *Javadi* situated in the *South Arcot* district was also surveyed together with an adjacent outlying reserve between the *Javadi* and *Kalrayans*. In *Salem* the work extended to the remaining portion of the *Kalrayan* range now completely mapped, and that part of the *Javadi* range lying in this district. The survey of the *Yellagiri Hill* was also commenced. In *North Arcot* nearly the whole of the *Javadi* range was surveyed with the exception of some outlying reserves and part of the south-east edge of the main range. Most of the low range near and to the south and east of *Vellore* was also surveyed.

The *triangulation* was completed in the *North Arcot* district (the taluks of *Chendragiri* and *Chittoor*) and continued in the *Salem* district where the work in the *Dharmapuri* taluk was finished. Boundary traversing was also carried out to some extent.

The topography completed was mapped in series of sheets for each range by districts, 14 sheets for *Salem*, 12 for *North Arcot* and 6 for *South Arcot*. The sheets for *Salem* include 10 reserved forests with an area of 132 square miles, 4 proposed reserves, a part of *Narasingapuram* reserved forest and part of *Nagaluthu* proposed reserve, all in the *Tirupatur* taluk. The sheets for *South Arcot* include eight reserves with an area of 138 square miles in the *Tiruvannāmalai* taluk, and those for *North Arcot* embrace twelve blocks covering an area of 152 square miles in the *Vellore* taluk and one with an area of 24 square miles in the *Pólur* taluk, besides parts of three others in the same taluk. In addition, fifteen sheets of the *North Arcot* district and six of *Salem* completed in 1893-94 which were held back pending settlement of certain questions as to demarcation, were sent in for publication.

The following table shows the outturn during the year in each district :—

Districts.	Triangulation.	Traversing.	Topography.
	SQ. MLS.	LINEAR MLS.	SQ. MLS.
<i>Salem</i>	400	407.1	338.9
<i>North Arcot</i>	1,500	379.4	509
<i>South Arcot</i>	18	63	123
Total .. { 1894-95 ..	1,918	849.5	970.9
{ 1893-94 ..	2,000	5,156	881

It will be seen from the table in the margin that the outturn of topography is the highest hitherto attained and the cost rate the lowest. These results are chiefly attributed to the increased experience and effective strength of the party.

Years.	Topography completed.	Cost rate per square mile.
	SQ. MLS.	RS.
1888-89	168	162
1889-90	214	149
1890-91	465	112
1891-92	659	97
1892-93	788	78
1893-94	881	73
1894-95	971	67
Total	4,146	..

The actual expenditure including cost of instruments amounted to Rs. 80,283 for the financial year, and Rs. 73,104 for the survey year ending with 31st August 1895. Excluding the contribution payable by the Government of India, the cost as adjusted by the Accountant-General of the Presidency amounted to Rs. 58,920—vide Form No. 64.

26. A temporary staff of surveyors and draughtsmen was also employed departmentally. Their work lay mainly in connection with selection and settlement of reserves. In the *Northern Circle* the surveyors turned out satisfactory work in *Ganjām* and *Kistna*, the outturn amounting to 139 and 172 miles, respectively. In *Vizagapatam* and *Kurnool* work was hindered by frequent changes in the staff, while in *Anantapur* 24 blocks aggregating about 71 square miles were surveyed. In the *Central Circle* work was confined chiefly to the proposed reserves in *Salem*, and in spite of the unhealthiness of the localities in which the surveyors had to work, 15 blocks of new selections and 4 under settlement were surveyed. In the *Southern Circle* the work in *North Coimbatore* consisted of the survey of the outer boundaries of certain proposed reserves and of the enclosures in one of them. In *South Malabar* 5 miles of the Amarpallem forest were surveyed. The work was interrupted by the unavoidable transfer of the surveyor to other work. In *North Malabar* all the forest roads and fire lines in Begur and Kurchyat blocks were surveyed and plotted on the maps. The extent surveyed in *South Canara* is reported to be 58½ miles (chain and compass) and 150½ miles (plane table). In *Nilgiris* a surveyor was employed towards the close of the year in surveying the blue gum plantations.

27. The draughtsmen in all the circles were engaged in the preparation of sketch-maps to accompany proposals for reservation. They had to attend also to the maintenance of the maps prescribed in section 81 of the Forest Code (Second Edition). In accordance with the suggestion of the Government of India in the review of the Madras Forest Administration report for 1893-94 the local Government has directed that the progress made in the preparation and maintenance of these map records should be reported annually in an appendix to the administration report. This information will be found embodied in appendix D. With selections and settlement on hand much progress has hitherto not been made in the maintenance of these records.

The area of reserved forests in all districts for which final maps have been prepared up to 30th June 1895 amounts to 6,159 square miles. Details will be found in appendix E.

28. *Working Plans*.—But little progress has to be recorded under this head; the collection of data for future plans has been continued. The question of pushing on with the preparation of simple working plans based upon area has been urged by Government in its Order, No. 531, dated 9th August 1895, and it is hoped that appreciable progress will be made in this direction in the current year. The subject cannot be seriously taken in hand until settlement is completed and more adequate establishments have been sanctioned.

Northern Circle.

Ganjām.—A record of the measurements of sāl trees in selected quarter-acre plots and the collection of statistics of demand and supply for each reserve were continued during the year.

Vizagapatam.—No working plans were framed for want of maps. A preliminary working circle was roughly formed in the Sarvasiddhi range. All reserves were closed except Peddapalli, in which two coupes were worked departmentally for firewood and small timber, leaving about 20 standards per acre in coupe No. I of 37 acres and 30

in coupe No. II of 40 acres. The yield amounted to 130 tons in the former and 55 in the latter, realizing Rs. 137 and 76, respectively, against a working expenditure of Rs. 174 and 77, respectively. Nothing is said by the Collector as to how the closing of all reserves but one in the taluk affected the agricultural population. It is certain that no single reserve, however favourably situated, could meet the local wants of the whole taluk satisfactorily. In the present instance the Board has ascertained that the area of unreserved waste is about three times that of reserved forests and that two-thirds of the taluk consist of zemindari and inam lands; doubtless the village requirements are largely met from these.

Góddavari.—The provisions of the working plans of Narsapur plantations and Coringa reserves were adhered to.

Kistna.—The progress consisted chiefly in the collection of statistics and notes for future working plans. Coupe No. III of the Guntūr babul working circle was not felled over owing to absence of a fair offer for the wood. The results of two years' working in the mangrove forests are as follow:—

	Coupe No. I felled, 1893-94.			Coupe No. II felled, 1894-95.		
	Area.	Tons felled.	Revenue.	Area.	Tons felled.	Revenue.
Masulipatam working circle ..	1,160	..	..	1,062	125	312
Avanigadda	2,280	2,558	6,406	1,690	1,114	2,784
Repalle	1,690	1,821	4,560	806	1,981	4,954
Total	5,130	4,435	11,105	3,558	3,220	8,050

* Felled in July 1894 and credited the accounts of 1894-95.

With a view to ascertain the rate of growth of Yepi (*Hardwickia binata*), Chirimaun (*Anogeissus latifolia*) and Billhedu or satinwood (*Chloroxylon Swietenia*), specimens of the woods were collected and the annual rings counted with the results shown below. The Acting Conservator (Mr. Hooper) doubts the reliability of these countings and it is open to question whether the age can be accurately ascertained by counting supposed annual rings in these latitudes. Sample areas for valuation of the stock in the Yepi (*Hardwickia binata*) and Sundra (*Acacia sundra*) forests were counted out.

Years of growth average.	Yepi, 153 specimens examined.		Chirimaun, 110 specimens examined.		Satinwood, 69 specimens examined.	
	Diameter without bark.	Diameter with bark.	Diameter without bark.	Diameter with bark.	Diameter without bark.	Diameter with bark.
5	INCHES. 2.04	INCHES. 2.46	INCHES. 2.25	INCHES. 2.48	INCHES. 1.93	INCHES. 2.20
10	3.23	4.01	2.75	2.98	2.21	2.51
15	4.54	5.25	3.50	3.75	2.53	2.96
20	6.10	6.92	4.69	4.99	3.18	3.55
25	7.35	8.40	5.45	5.80	3.83	4.20
30	8.43	9.63	6.60	6.95	4.45	4.90
35	9.43	10.79	7.25	7.65	4.95	5.48
40	10.39	11.86	8.00	8.45	5.30	5.83
45	11.33	12.90	..	..	5.66	6.20
50	12.26	13.91	..	..	6.00	6.56
55	13.18	14.90	..	..	6.45	7.02
60	..	..	..	..	6.85	7.47
65	..	..	..	..	7.25	7.90

Bellary.—Mr. Hooper's working plan for the eastern slopes of the Ramandrug range of the leased forests was given effect to, but the demand for wood was found slack. The Collector states that the plan will require modification if the demand for wood does not improve considerably. The Acting Conservator sees no immediate necessity for any change. He remarks that the plan was devised more with reference to improvement of growth than to demand. In the Rayadrug forests the system of located fellings was introduced and the method of working adopted is coppice with standard.

Central Circle.

Nellore.—In the Srīharikōta forest cutting was carried on in the second compartment and 2,495 tons of fuel were extracted during the year against 2,748 in the previous year. The decrease is ascribed to the tramway wagons having been under repair for three months. The working plans for the casuarina plantations were modified. A large balance of the previous year's stock remained on hand at the commencement of the year.

Cuddapah.—There were no new working plans. The provisions of the Balapalle working plans were modified to the extent that no thinnings were made in compartments felled over 12 years ago. The rate of growth of the coppice is slower than was anticipated and thinnings are at present unnecessary.

South Arcot.—The provisions of the preliminary working schemes for the Anamalai reserved forest in the Tiruvannāmalai range and of the working circle, comprising the casuarina plantations of Talankoda, Fort St. David and Shōnankupam in the Cuddalore range, were acted up to. The preparation of a working scheme comprising the casuarina plantations of Doni Durai (north and south), Nochikadu and Periyakuppam is delayed pending notification of the last named block under section 16.

Trichinopoly.—The yield from the Padugai plantations on the south bank of the Cauvery amounted to 2,626 tons during the year against 2,415 tons estimated in the working scheme.

Salem.—The area to be felled up to the end of the year in the Morur block according to working plan was felled departmentally and the produce for the most part supplied to the Madras Railway Company as engine fuel at a profit.

Southern Circle.

Tinnevely.—The forests were hitherto worked on a system of located fellings; some under direct departmental management and others through contractors. The necessity for great care in the selection of coupes in view to the formation of small working circles is fully recognised by the District Forest-officer and the Conservator, and arrangements are being made accordingly. During the year under review a simple working plan for an area of 3,046 acres, called Block I, Padarmalai, of the Mundanthorai working circle in the Pāpanāsam ghāt forest was framed. It is to be worked on the coppice with standard system with a rotation of 20 years. Twenty acres of coupe No. III of compartment A were felled over with the result that the yield per acre amounted to 14 tons against 20 estimated in the working plan. Owing to the smallness of the area, it is considered premature to attempt definite conclusions at present. The preparation of four more working schemes is in progress.

South Coimbatore.—The provisions of the Sholakarai working scheme were followed, and the preliminary working scheme for the Singara tope working circle in the Odanthorai reserve was revised and submitted to the Board at the close of the year. A revised plan for the Chinnār working circle was still under consideration.

Nilgiris.—The blue gum plantations in the Ootacamund and Coonoor ranges were felled during the year under the existing preliminary working schemes. The demand, however, is slack owing to the competition from private plantations. The most profitable method of utilizing the yield of the plantations on the Nilgiris appears to be conversion into charcoal which finds a ready sale. Arrangements are being made to increase the supply. The matter requires careful attention, but must await the general question of the treatment of the plantations mooted in paragraph 5 of Government Order, Mis. No. 531, dated 9th August 1895. Mr. Tireman, Assistant Conservator of Forests, has been, for some months, engaged upon survey and collection of data for the preparation of working plans for the plantations in the Ootacamund range.

North Malabar.—No working plan has been prepared, but the old system of felling dead, or dying trees wherever they could be found, has been stopped. Definite blocks are now selected and fellings commenced only after trees have been selected and marked by the Range officers.

South Malabar.—The provisions of the working plan for the Walayar reserve were adhered to and the results of the year's cutting were satisfactory. It has been found here as in Sholakarai in South Coimbatore that the period of rotation has been

fixed too low and will have to be extended by five years. A regular working plan for the plantations and a preliminary working scheme for the natural forests in the Nīlambūr and Amarampalem ranges were prepared and await sanction.

South Canara.—A working plan for Poitaji-Koyapalla block was elaborated and awaits sanction. Plans for two other blocks were under preparation.

CHAPTER IV.

PROTECTION AND IMPROVEMENT.

(a) *Establishment.*

29. The superior staff consisted of 3 Conservators, 21 Deputy Conservators, 8 Assistant Conservators and 11 extra Assistant Conservators, as against 3, 20, 8 and 11, respectively, in the preceding year. During the year under report one Assistant Conservator (Mr. Bryant) was promoted permanently to Deputy Conservator and one trained officer from England (Mr. Batchelor) was brought on the staff of Assistant Conservators.

The scale of permanent subordinate forest establishment remained the same as in the previous year and consisted of 61 rangers, including 3 Sub-Assistants, 128 Foresters and 728 Forest guards, distributed as under—

	Rangers, including Sub-Assistants.	Foresters.	Forest guards.
Northern Circle	16	31	220
Central „	23	48	298
Southern „	22	49	210

The permanent office establishment consisted of 116 clerks and 214 peons as against 118 and 217, respectively, in the preceding year. The decrease is due to the reduction of 2 clerks and 3 masalchies in the offices of the Conservators of Forests. The distribution of the office staff circlewar was as follows:—

	Northern Circle.	Central Circle.	Southern Circle.
Clerks	23	46	47
Peons	73	75	66

The entertainment of temporary establishment was regulated according to actual requirements. There was a large increase during the year principally under watchmen. This was unavoidable, as the increased area brought under reservation required protection. The cry for larger establishments, more especially under subordinate protective staff, continued. A large number of temporary Foresters was sanctioned during the year both in the *Northern* and the *Southern Circles*. Most of them in the former circle had to be employed in the Kistna district in connection with the new grazing scheme. On the whole the increase in the temporary establishment was fully justified by the large increase in the revenue realized during the year. It is hoped that the long-looked for augmentation of the subordinate forest establishment will soon be a reality, as the feeling of discontent among the subordinates in consequence of slow promotion still continues and Dehra Dun men are trying to seek employment elsewhere.

(b) *General protection and breaches of Forest laws.*

30. No marked improvement in the protection of reserves and prevention of breaches of Forest laws can be expected until the numerical strength of the protective staff is sufficiently augmented. Particulars relating to prosecutions for breaches of Forest laws during 1894-95 are given in Form No. 63 appended to this report and the following is an abstract thereof. The particulars of the preceding year are also shown in this abstract to facilitate comparison:—

Name of Circle.	Year.	Number of cases pending at the commencement of the year.	New cases of the year.					Total cases.	Disposed of during the year.					Cases pending at close of the year.
			Injury to forests by fire.	Unauthorised felling or appropriation of wood and minor produce.	Grazing without permission or in tracts in which grazing is prohibited.	Other offences.	Total new cases of the year.		Convictions.	Acquittals.	Compounded.	Withdrawn.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Northern Circle ..	1893-94 ..	916	21	1,327	657	151	2,056	2,972	1,050	353	863	180	2,446	526
	1894-95 ..	492	10	1,560	715	263	2,548	3,040	876	224	1,108	237	2,465	575
	Difference in favour or against the year under report ..	— 424	— 11	+ 233	+ 168	+ 112	+ 492	+ 68	— 174	— 129	+ 245	+ 77	+ 19	+ 49
Central Circle ..	1893-94 ..	668	15	2,010	2,355	349	4,730	5,398	1,516	356	2,629	349	4,800	538
	1894-95 ..	538	40	2,067	2,206	466	4,779	5,317	1,594	331	2,499	331	4,755	562
	Difference in favour or against the year under report ..	— 130	+ 24	+ 57	— 149	+ 117	+ 49	— 81	+ 78	— 35	— 130	— 18	— 105	+ 24
Southern Circle ..	1893-94 ..	381	16	2,088	743	374	3,221	3,602	746	200	1,817	265	3,028	574
	1894-95 ..	574	29	1,466	733	328	2,556	3,130	819	195	1,502	316	2,832	708
	Difference in favour or against the year under report ..	+ 193	+ 13	— 622	— 10	— 46	— 665	— 472	+ 73	— 5	— 315	+ 51	— 196	— 276
Total for the Presidency ..	1893-94 ..	1,965	53	5,425	3,555	874	10,007	11,972	3,312	919	5,309	794	10,334	1,638
	1894-95 ..	1,604	79	5,093	3,654	1,057	9,863	11,487	3,289	750	5,109	904	10,052	1,435
	Difference in favour or against the year under report ..	— 361	+ 26	— 332	— 1	+ 183	— 124	— 485	— 23	— 169	— 200	+ 110	— 282	..

31. In the *Northern Circle* the correct number of cases pending from 1893-94 in *Vizagapatam* is now reported to be only 13 against 47 in the previous year's report. This accounts for the discrepancy noticeable in the figures entered in column 3 of the foregoing abstract. The total number of new cases during the year exhibits a reduction of 124 cases or a little over 1 per cent. on the preceding year's total for the Presidency. In the *Southern Circle* the decrease amounted to 665 cases or about 21 per cent., while in the *Northern* and *Central Circles* there was an increase of 492 and 49 cases or 24 and 1 per cent., respectively.

The number of cases of injury by fire (column 4) diminished materially in the *Northern Circle* in almost all the districts except *Vizagapatam* and increased in the other two circles, principally in the districts of *Salem*, *Madura* and *Malabar* (*North*).

The number of cases of unauthorized felling or appropriation of wood and minor produce (column 5) increased considerably in the *Northern Circle*, mainly in the districts of *Ganjam*, *Kurnool* and *Bellary*. The increase was, however, partly counterbalanced by decreases in *Anantapur* of about 22 per cent. and in *Kistna* of about 26 per cent., which have not been explained. The increase in the other districts named above is generally ascribed to better supervision and increased vigilance on the part of subordinates. In the *Central Circle* the number of cases under this head increased largely in the *Salem* district owing it is said to the expansion of the forest area and to better detection. In the *Southern Circle* the great falling off in the number of cases is due to the introduction of a change in *South Canara* in the system of treating offences, whereby all petty offences, such as simple trespass and minor thefts of forest produce for the first time (which amounted to 736 cases during the year), were not reported to the Magistracy, but disposed of by the District Forest-officer himself by admonishing the persons concerned. The Acting Conservator (Mr. Gass) considers that the new procedure will probably lead to a very large increase in the number of such offences. The results of the change will be carefully watched. If the Conservator's forebodings prove true, a few exemplary punishments should have the desired effect and doubtless the District Magistrate will take the necessary action. The Forest Member of the Board of Revenue is of opinion that, save for special reasons, simple trespass should not be treated as an offence at all.

The number of cases of grazing without permission (column 6 of the abstract) increased considerably in the *Northern Circle*, chiefly in the districts of *Ganjam*, *Anantapur* and *Kurnool*. No explanation is forthcoming in the district reports in regard to the increase in the first two districts, while that in the last-named district is said to be probably in the number of detections and not in that of offences. It is noteworthy that no increase occurred under this head in the *Kistna* district, notwithstanding the fact that under the parcellaire system of grazing (newly introduced) an increased area has been brought under control. The system was worked leniently; new offenders were let off with a warning and not proceeded against under the Forest law.

In the *Central Circle* illicit grazing in *North Arcot* is believed to have diminished very considerably. This accounts for the large decrease in the number of new cases under this head in that circle.

The number of cases under other offences (column 7) rose mainly in *Vizagapatam* and *Godavari* in the *Northern Circle*, and in *Nellore*, *South Arcot* and *Trichinopoly* in the *Central Circle*; while the number in the *Southern Circle* showed a large decrease in *South Canara* for reasons stated under the preceding head. In *Vizagapatam* the increase is reported to be due partly to better detection in the Palkonda range, and partly to the prosecution of several cases in the Golconda range by the Range officer without sufficient inquiry and without the District Forest officer's sanction. Steps have been taken to prevent a recurrence. In *Godavari* the increase occurred in the number of driftwood cases.

The increase in *Nellore* is attributed to greater vigilance, while that in *South Arcot* was chiefly under petty offences. The rise in *Trichinopoly* has not been explained in the district report.

32. The percentage of cases—(1) withdrawn, (2) compounded and (3) prosecuted to cases disposed of during the year as compared with the results of the preceding year is as follows:—

Name of Circle.	Year.	Percentage of cases withdrawn to cases disposed of.	Percentage of cases compounded to cases disposed of.	Percentage of cases prosecuted to cases disposed of.	Percentage of acquittals to cases dealt with by the Magistracy.
1	2	3	4	5	6
Northern Circle	1893-94	7	35	58	25
	1894-95	10	45	45	20
Central	1893-94	7	54	39	19
	1894-95	7	53	40	17
Southern	1893-94	9	60	31	21
	1894-95	11	53	36	19
Total .. .	1893-94	8	51	41	21
	1894-95	9	51	40	18

The variations in the percentages of cases prosecuted are accounted for by the variations in the percentages of cases withdrawn and compounded.

The most satisfactory feature in the results of the year as compared with those of the preceding year is a decrease in all the circles in the percentages of cases acquitted to cases dealt with by the Magistracy, the figures being 5, 2 and 2 in the *Northern*, *Central* and *Southern Circles*, respectively, the net result for the Presidency being a decrease of 3 per cent. In the *Northern Circle* the decrease occurred in *Ganjām*, *Anantapur*, *Kurnool* and *Gódvāri*, the variation in the percentages being 25, 7, 6 and 4, respectively. The districts of *Kistna* and *Bellary* showed an increase of 7 and 6 per cent., respectively. In *Kistna* certain long standing cases of illicit grazing could not be clearly proved, while no explanation is forthcoming for *Bellary*. In the *Central Circle* the decrease amounted to 13 in *Salem*, 8 in *South Arcot* and 2 in *Chingleput*. There was a large increase in *Cuddapah*, which is accounted for by the fact that Magistrates would not convict in cases where cattle (for which there was a license) were found inside the reserve without the license being in the possession of the graziers concerned. Such cases should not have been prosecuted at all, the punishment for breach of condition of the license being restricted to its cancellation or suspension for a time. In the *Southern Circle* the decrease was 8 in *North Coimbatore*, 7 in the *Nilgiris*, 6 in *Tinnevelly*, 1 in *South Coimbatore* and 1 in *South Canara*. There was a large increase in *South Malabar* under cases of trespass and unauthorized clearing for cultivation in escheat lands selected for reservation in which only possession could be proved. The cases fell through as the Magistrates called for records to prove the title of Government to the escheat lands in question which were not available. The percentage of cases withdrawn to cases disposed of during the year shows but a slight increase for the Presidency. The increase amounted to 3 in the *Northern* and 2 in the *Southern Circles*. In the former it occurred in *Vizagapatam*, *Kistna* and *Kurnool*. The increase in *Vizagapatam* was due to the irregularity in the Golconda range on the part of the Range officer referred to in paragraph 31 *supra*; that in *Kistna* to certain unimportant cases which had been long pending having been withdrawn during the year; and that in *Kurnool* to certain weak cases brought to light by overzealous subordinates having been similarly dealt with. In the *Southern Circle* the increase was chiefly in *Malabar*, *North and South*, *Madura* and *Tinnevelly*; in *North Malabar* cases in which strong evidence was not forthcoming had been withdrawn; in *South Malabar* a similar course was pursued in regard to certain cases of trespass and clearing for cultivation on escheat lands selected for reservation. The increase in *Madura* has not been explained, while that in *Tinnevelly* is attributed to the withdrawal of several cases of illicit grazing in which the owners of cattle could not be prosecuted successfully. In the *Central Circle* a large increase in *Cuddapah* due to withdrawals of several long pending cases and of others, in which evidence independent of forest subordinates was wanting, was counterbalanced by small decreases in certain other districts, the net result for the circle thus remaining unaffected. The percentage for the Presidency of cases compounded to total cases disposed of remained the same as in the preceding year, viz., 51 per cent. The Board has no reason to believe the power of compounding has been strained by District Forest-officers. The variations

in the percentages of the circle totals consisted of an increase of ten in the *Northern Circle* and a decrease of one and seven in the *Central* and *Southern Circles*, respectively. In the *Northern Circle* the increase was considerable in *Ganjām*, *Gódvāri* and *Bellary* and less so in *Kurnool* and *Anantapur*, while *Vizagapatam* and *Kistna* showed a small decrease. In the *Central Circle* there was a large decrease in *Cuddapah* and *Trichinopoly* followed by an increase in *Chingleput*, *North Arcot* and *South Arcot*. In the *Southern Circle* the large decrease was in *North and South Malabar* and *South Canara*, while the other districts showed an increase. A decrease in the percentage of cases acquitted by the magistracy is noticeable in almost all the districts in which an increase has occurred in the percentage of cases compounded. The amount of compensation realized during the year as compared with that in the preceding year is shown in the following abstract:—

Name of Circle.	Year.	Amount of compensation realized.	Average amount per case.	Average amount per person accused.
Northern Circle	1893-94	Rs. 8,442	Rs. A. P. 9 13 0	Rs. A. P. 3 7 0
	1894-95	11,443	10 5 0	3 9 0
Central Circle	1893-94	19,016	7 4 0	2 15 0
	1894-95	22,624	9 1 0	3 4 0
Southern Circle	1893-94	10,137	5 9 0	3 4 0
	1894-95	10,551	7 0 0	3 5 0
Total for the Presidency .. .	1893-94	37,595	7 1 0	3 2 0
	1894-95	44,618	8 12 0	3 5 0

It will be seen from the above figures that the average per case for the Presidency shows an increase of Rs. 1-11-0, while the average per person accused has risen by only 3 annas. But little weight should be placed upon this average, it forms no criterion. In cases of illicit grazing, for instance, the compensation is based upon the number of cattle-found trespassing.

The small increase in the average per case in the *Northern Circle* was in *Ganjām*, *Gódvāri* and *Anantapur*. The increase in the *Central Circle* occurred in *South Arcot* in the Tiruvannamalai range where a large number of deliberate cases of illicit grazing of cattle and more specially of goats was compounded at enhanced rates. It was found the acceptance of a low rate per head had no deterrent effect, and even now goat herds willingly pay the compensation demanded. The increase in the *Southern Circle* occurred in *South Canara*, *North Coimbatore* and *Tinnevelly*. Generally the cases compounded were trivial. In *Bellary*, however, one case of illicit burning of charcoal in which 41 persons were concerned was compounded for Rs. 1,555. No special reasons are assigned in the district report for compounding this case, and an explanation has been called for.

33. Of the cases prosecuted during the year before the magistracy, the following may be regarded as of some importance. In *Gódvāri* a case was detected in which eleven cart-loads of teak timber together with carts and bullocks were confiscated and the offenders sentenced to imprisonment. In *Cuddapah* the inquiry into the serious case of embezzlement by a permit-issuing gumastah referred to in the last year's report resulted in the accused's imprisonment for a long term. In *South Arcot* a forest guard and a few watchmen were severely beaten when engaged in detection by a set of lawless people, and the matter is *sub-judice*. In *Madura* a watcher was murdered for having been strict in detection. The case was committed to the sessions where it was thrown out for want of evidence. In *North Coimbatore* a case of illicit felling of sandalwood on a large scale was prosecuted and conviction secured. 1,435 cases were pending disposal at close of the year against 1,604 at its commencement. The decrease occurred principally in *South Canara*, where the District Magistrate is stated to have brought about the speedy disposal of cases pending with the subordinate Magistrates. The number of pending cases has largely increased in *Vizagapatam*, *Bellary* and *Madura*. This is probably due to the increase in the number of new cases towards the end of the year in these districts.

(c) *Forest-fires and fire-protection.*

34. The following abstract exhibits the results of fire-protection :—

Fire-protection.

Circle.	Up to 30th June 1893.			During 1893-94.			During 1894-95.		
	Area of forest reserves attempted in square miles.	Total cost per square mile.		Area attempted in square miles.	Percentage of area attempted which escaped fire.	Average cost per square mile.	Area attempted in square miles.	Percentage of area attempted which escaped fire.	Average cost per square mile.
Northern	1,312	Rs. A. P. 60 5 6		1,172	90	Rs. A. P. 11 4 11	1,128	93	Rs. A. P. 10 14 3
Central	2,407	53 12 2		2,484	95	5 10 5	2,517	94	5 2 8
Southern	1,381	112 4 10		1,388	95	13 9 5	1,334	94	12 11 11
Total	5,100	71 4 10		5,044	94	9 2 5	4,979	94	8 7 11

The amount expended during the year as per form No. 64 was Rs. 42,295 against Rs. 46,155 in the preceding year. The decrease amounted to Rs. 968 in the *Northern Circle*, Rs. 1,041 in the *Central Circle* and Rs. 1,851 in the *Southern Circle*. The average cost per square mile also shows a decrease on the previous year's rate both for the Presidency as well as for each circle. The decreases are due to savings under cutting and clearing of fire-lines or patrol establishment. No detailed comparison of cost is practicable. In future, Collectors' reports will contain full information as to the system of fire-protection in vogue. In some districts little or nothing is done in the way of fire-traces or fire-lines and the fire-protection consists in the entertainment of fire-patrols during the hot season. Such men are useful in collecting villagers and giving information in cases of outbreak of fire, but an arrangement of this kind can hardly be termed rigid fire-protection.

The area attempted to be protected during the year shows a decrease of 44 square miles in the *Northern Circle*, an increase of 33 square miles in the *Central Circle* and a decrease again of 54 square miles in the *Southern Circle* as compared with the area attempted in the previous year. In the *Northern Circle* the decrease was in *Vizagapatam* and *Kistna*. In the former, protection was confined to well-selected areas and in the latter, grazing compartment lines cut in connection with the new grazing scheme also served as fire-lines. In the *Central Circle*, the increase occurred in *North Arcot* and *Salem*. It was particularly large in the former district where protection was extended to nine new blocks. In the *Southern Circle* the decrease was in *North Coimbatore* where certain large areas, the protection of which was nominally attempted during the preceding year, had to be abandoned during the year under report as being too large to be really protected.

The area burnt is reported at 7 per cent. of the area attempted in the *Northern Circle* and at 6 per cent. in each of the other two circles against 10 per cent. and 5 per cent. respectively in the preceding year.

35. The percentages for the several districts are shown below as compared with those relating to the season of 1893-94 :—

Northern Circle.			Central Circle.			Southern Circle.		
Districts.	Percentage of fires to area attempted in 1893-94.	Percentage of fires to area attempted in 1894-95.	Districts.	Percentage of fires to area attempted in 1893-94.	Percentage of fires to area attempted in 1894-95.	Districts.	Percentage of fires to area attempted in 1893-94.	Percentage of fires to area attempted in 1894-95.
Ganjām ..	5	2	Cuddapah ..	10	13	South Canara ..	1	5
Vizagapatam ..	2	..	Nellore ..	1	..	North Malabar ..	3	17
Górávari ..	9	5	Chingleput ..	..	..	South Malabar ..	..	..
Kistna ..	4	8	North Arcot ..	2	2	Nilgiris ..	1	2
Kurnool ..	35	33	South Arcot ..	1	4	North Coimbatore ..	20	8
Bellary ..	14	9	Salem ..	3	2	South Coimbatore ..	2	8
Anantapur ..	9	1	Trichinopoly ..	..	..	Madura ..	2	3
			Tanjore ..	..	..	Tinnevely ..	10	11
	10	7		5	6		5	6

In *Ganjām* protection was assisted by heavy showers during the hot season. In *Górávari* the chief fires occurred in four reserves due partly to incendiarism and partly to accident and carelessness on the part of the subordinates. It is observed that the Range officer responsible for this result in one reserve has been reduced. In regard to the remark made by the Government of India in its review on the last year's report that the forests in parts of this district do not appear to enjoy the needful protection from fire and unregulated grazing, the Acting Conservator states that the matter is being considered but fears that with the available small staff and bad climate ordinary fire-protection will always be a doubtful success especially in the Agency tracts inhabited by wild tribes. He adds that as already urged by him (*vide* paragraph 2 of his letter in Government Order, No. 654, Revenue, dated 26th September 1895) the application of rules for rigid fire conservancy should await some settled plan of dealing with each forest.

In *Kistna* there were four fires during the year, of which two were extensive, burning an area of over 7,000 acres. One of these was the work of an incendiary caught in the act of firing the forest and the other is reported to have been caused by a fire crossing from Kurnool. In Kurnool the results are said to be satisfactory on the whole. For the extensive Nallamalai Hill conflagrations the Chenzus and the railway subordinates are reported to be answerable. The Chenzus like many hill tribes are difficult to deal with. They fire the growth purposely to facilitate tracking of game, collection of the *bassia latifolia* fruit and to keep the paths open. As regards the alleged mischief by the railway subordinates the matter has been brought to the notice of Government separately—*vide* Board's Proceedings, F. Mis. No. 1392, dated 23rd September 1895. The Acting Conservator remarks that the results do not altogether justify the policy hitherto pursued in the Nallamalais as regards fire-protection. It is believed that steps are being taken to remedy the defects.

In *Bellary* there was a decrease in the cost of fire-protection though the fire-lines were made broader. The result is reported to be due to better supervision in the Sandúr range. There were three fires in the leased forests and the area burnt over was 4,916 against 10,339 acres in the preceding year. The most important fire occurred in the Sandúr leased forests. One fire is ascribed to the carelessness of a guard when burning the fire-lines and the other two to incendiarism and lightning. It is satisfactory to record that the administrator of the Sandúr State cordially co-operated in the matter of fire protection. The results of protection in Anantapur are reported satisfactory, the area which escaped fire being as high as 99 per cent. It is remarked, however, that larger areas than those reported were probably burnt. In the *Central Circle*, the success in *Nellore* is attributed to the vigilance on the part of the subordinates and to timely rains. In *Cuddapah* the area burnt appears to have been very much under-estimated. It is reported that the majority of the fires was due to incendiarism. The increase in *South Arcot* was due partly to the very dry weather experienced and partly to incendiarism.

In the Southern Circle the larger percentage of fires in the protected areas in South Canara has not been accounted for in the district report but as regards forest-fires in the district generally it is stated that they were more than usual owing to the lateness of the monsoon and the almost entire absence of early rains and thunderstorms. In North Malabar the protection of a considerably larger area was attempted but with unsatisfactory results owing chiefly to prolonged drought. In *Nilgiris* the season was unusually dry and about 1,905 acres in the Mudumalai leased forests were burnt. In *North Coimbatore* the results are more satisfactory notwithstanding the very unfavourable season. This is because the protection during the year was more real and confined to a very much smaller area. In *South Coimbatore* the year was an unfortunate one and a number of fires occurred including one of over 4 square miles in the Tunacadavu range. The origin of the fire is unknown. The results in Madura and Tinnevely cannot be regarded as unsatisfactory considering the unfavourable season. In the former a serious fire occurred in the Gundan shola plantations causing much damage. The cause of the fire is ascribed to sparks having flown from a fire outside across the 50 feet cleared trace.

(d) *Grazing.*

36. The grazing revenue again shows a material increase upon the previous year amounting to Rs. 61,402. This satisfactory result is attributable to more efficient

control and improvement in the methods of collection of grazing fees and is not due to increased rates or the imposition of unnecessary restrictions.

The subjoined table shows the realizations in each district during the year under review as compared with the results of the preceding year :—

Districts.	Revenue from grazing fees, grazing contracts and sale of grass realized in		Rates of grazing fees levied.
	1893-94.	1894-95.	
1	2	3	4
<i>Northern Circle.</i>			
Ganjám	Rs. 2,801	Rs. 5,112	Half the sanctioned rates charged.
Vizagapatam	190	1,508	Do. do.
Górávari	3,359	2,155	Do. do.
Kistna	74,087	90,144	Full sanctioned rates charged.
Kurnool	11,077	18,253	Half the sanctioned rates charged.
Bellary	2,920	5,506	Do. do.
Anantapur	2,459	4,903	Do. do.
Total	96,893	1,27,581	
<i>Central Circle.</i>			
Cuddapah	10,426	17,868	Maxima rates are charged, but the rate for buffaloes has recently been reduced by half.
Nellore	15,584	23,752	Grazing is leased out in this district.
Chingleput	5,785	6,826	Varying rates within sanctioned rates.
North Arcot	42,982	26,951	Maxima rates on non-privileged and half rates on privileged cattle.
South Arcot	15,173	25,792	Local cattle, half rates; rest, full.
Salem	19,654	24,164	Half rates on privileged and full rates on non-privileged cattle.
Trichinopoly	5,442	11,500	Full rates charged.
Tanjore	482	498	Do.
Total	1,15,328	1,37,358	
<i>Southern Circle.</i>			
South Canara	3,685	3,976	Half rates charged.
North Malabar	1,226	1,675	Three annas on buffaloes and two annas on cows and bulls, &c. Half rates are charged for calves.
South Malabar	79	215	Grass is cut and not grazed in this division.
Nilgiris	7,420	8,200	The maximum on non-privileged cattle, half on privileged cattle and (under special sanction), double the maximum on alien cattle.
North Coimbatore	27,588	32,707	Half rates on privileged and full rates on non-privileged cattle.
South Coimbatore	6,286	7,378	Do. do.
Madura	3,075	2,856	Varying rates within sanctioned rates.
Tinnevely	5,311	6,347	Half rates on privileged and full rates on non-privileged cattle.
Total	54,670	63,354	
Grand Total	2,66,891	3,28,293	

The increase was general in all districts except Górávari, North Arcot and Madura. The decrease in these districts amounted to Rs. 1,204, Rs. 15,831 and Rs. 219, respectively. Compared with last year there was an increase in the Northern Circle of Rs. 30,688, in the Central of Rs. 22,030, and in the Southern of Rs. 8,684. The percentage of increase for each circle is 32, 19 and 16, respectively, or 23 for the Presidency. More than 50 per cent. of the increase in the *Northern Circle* accrued in the Kistna district and is attributed to the successful working of the parcellaire system of grazing. It is gratifying to observe that, although this scheme was novel to the ryots, there was comparative absence of complaint and a decrease in the number of cattle impounded notwithstanding a large increase in the area of the reserves. Special areas for goats and other cattle were selected during the year but have not as yet been definitely decided upon. In *Kurnool* the large increase of Rs. 7,176 was partly due to the introduction of grazing circles and partly to a portion of the revenue pertaining to the financial year 1895-96 being included, as grazing permits hold good up to the end of March in each year and not up to end of June. A satisfactory feature in the year's working is that the leasing system is in process of abolition. No blocks are closed to grazing except such as are under fire protection. The increase

of Rs. 2,311 in Ganjám is attributed to the fact that the collection of grazing fee has been rising steadily since its introduction in 1892-93. The increase of Rs. 1,318 in Vizagapatam is due to increased supervision and regulation in Sarvasiddhi range. It is noted that in the agency forests of this district grazing was confined to the cattle belonging to the hillmen. The increase of Rs. 2,586 in *Bellary* is accounted for by the larger area thrown open for grazing. The introduction of more systematic arrangements for the issue of grazing permits accounts for the increase of Rs. 2,444 in *Anantapur*. The decrease in Górávari is due to the limitation of the number of cattle allowed to enter the reserves in the agency tracts and also to the fact that other cattle were taken to the forests for grazing under the pretence that they belonged to the Koyas.

In the *Central Circle* the large increase of Rs. 8,175 in Nellore is attributed partly to keen competition amongst the lessees of "Kanchas" (open grazing-grounds) and partly to the levy of small fees for grazing in Shekadas (village grazing-grounds) absorbed in reserves. It is noted that, as directed in Board's Proceedings, Forest Mis. No. 451, dated 4th April 1895, attempts are being made for the gradual abolition of leasing in favour of the permit system. The Nellore breed of cattle is famous and every encouragement is afforded to breeders by provision of grazing-grounds in reserved forests wherever this can be done without intruding upon grazing areas necessary for agricultural cattle. In *Trichinopoly* grazing was leased out in the Padugai forests and allowed elsewhere under permits sold by Range officers. The increase in that district (Rs. 6,058), Cuddapah (Rs. 7,442), Salem (Rs. 4,510), Chingleput (Rs. 1,041) and South Arcot (Rs. 10,619) is due generally to better supervision and increase in the number of cattle for which permits were taken. The last-mentioned district (South Arcot) provides grazing-grounds for a very large number of cattle from the neighbouring Tanjore district. The decrease in North Arcot is explained by the statement that in the revenue of 1893-94 a large proportion of the collections of 1892-93 was included and that consequently the average of the two years' revenue should be taken as the normal annual revenue. This gives Rs. 26,725 which is slightly below the revenue (Rs. 26,951) realized during the year under report.

In the Southern Circle, the most noticeable increase occurred in North and South Coimbatore and in Tinnevely. The large increase in North and South Coimbatore is attributed to the vigilance of the subordinates which resulted in permits being taken out for a larger number of cattle, many of which doubtless grazed free in the previous year. The Conservator remarks that grazing in the North Coimbatore division must be brought more under control than has been possible hitherto. The grazing arrangements in Tinnevely appear to have been carefully considered. In this district a system of grazing in reserved forests was introduced by which alternate compartments were thrown open for cattle covered by the same permit, one for the first six months and the other for the second-half year, grazing in unreserved lands being permitted free. This system has been found to be popular and has contributed to the large increase of revenue in the year under report. It is said that it is in contemplation still to improve the system by dividing the area available in each taluk into three more or less equal areas situated so far as can conveniently be arranged in proximity to the villages whence cattle come to graze. This will allow each area a period of two years' rest. Under the present arrangements goats are excluded but no hardship is entailed thereby, as there is a large number of tanks in the district in the beds of which there is plenty of fodder available for free browsing.

The question of abolishing the distinction between privileged and non-privileged cattle was not disposed of by Government until after the close of the year.

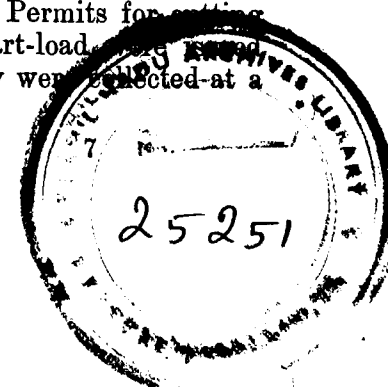
Information showing the area of forest reserves closed to grazing, the area grazed over and the average number of cattle grazed per square mile during the year under review is given in appendix F.

37. *Grass-cutting and hay-making, Northern Circle.*—The only district in which grass cutting was undertaken to any extent was Bellary, where 223, 829 lbs. of dry grass were collected and supplied to the Commissariat Department. The cost of collection amounted to Rs. 1,231, while the receipts were Rs. 1,791. Permits for cutting and removing grass at 3 pies per head-load or at 5 annas per cart-load, realizing a revenue of Rs. 710. In Kistna 160 cubic feet of hay were collected at a cost of Rs. 6-15-0 and sold for Rs. 13-3-0.

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Central Circle.—No experiments were made in this circle in hay-making. It is satisfactory to note that the ryots in the Cuddapah district are beginning to recognize the value, as fodder, of grass in reserved forests and in parts willingly pay for permission to cut and remove it.

Southern Circle.—In the Nilgiris grass was sold for Rs. 215, and in South Canara also there were sales. The amount realized has not been stated. In Tinnevely the right to remove grass from the ghât forests was included in minor produce contracts while for removals from certain plain reserves permits were issued departmentally at 3 and 6 pies per head-load. The right to cut grass in a few of the plain reserves was leased out as usual.

(e) *Natural reproduction.*

38. Full notes are given in appendix G. and the following is a brief resumé.

The natural reproduction of Sâl (*Shorea robusta*) in Ganjâm continues to be excellent. In Vizagapatam and Gôdâvari general reproduction in closed areas continues to be satisfactory; and in Bellary the result was on the whole poor, though date and palmyra in parts and coppice regrowth in felled compartments were coming on well. A fair crop of seedlings showed themselves in Kurnool in the fire-protected areas. In Cuddapah there was no improvement in the seeding of red sanders (*Pterocarpus santalinus*). *Hardwickia binata* and *Anogeissus latifolia* are the only two important trees which appear to regenerate themselves naturally from seed at all successfully. The growth generally from coppice was however good. In South Arcot except sandalwood reproduction from other species from seed and coppice continues encouraging. The natural reproduction from seed in North Arcot, Salem and Madura was unsatisfactory, except in specially-protected areas, though it came up well from coppice. In Tinnevely regeneration of teak from coppice was good. A large number of sandalwood seedlings is reported to have sprung up and to thrive well in this district as also in North Coimbatore. Reproduction in South Canara is said on the whole to be improving. Bamboos have seeded generally in most districts and the reproduction is very satisfactory. Mr. Popert inspected the teak forests of the Anamalais (South Coimbatore district), Mudumalai and Beni (Nilgiri district) and submitted suggestions supplementing or modifying the systems of working adopted of late years. All these forests have been overworked in former times and little mature or sound teak remains. The teak reproduction is poor, but Mr. Popert is of opinion that the forests contain sufficient young growth to eventually form their chief peuplement.

(f) *Artificial reproduction.*

39. The following statement shows the area under plantations, topes and cultural operations together with the cost incurred during the period under report as compared with the figures of the preceding year :—

ABSTRACT H.—Plantations, topes and cultural operations in other areas.

	PLANTATIONS.										TOPEs.			
	Up to 1893-94.					Added during					Total.		Up to 1893-94.	
	Area in acres.		Cost.			Area in acres.		Cost.			Area in acres.		Cost.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Northern Circle	865	34,281	Rs. 126	114	6,338	641	5,759	1,547	46,504	3,542	21,422	..	..	Rs. 1,302
Central "	13,386	7,00,434	(a) 126	102	18,807	(b) 73	14,795	13,578	7,28,857	10,316	(c) 18	..	(c) 1,238	4,179
Southern "	6,623	4,81,207	(a) 126	209	13,619	377	12,744	7,112	4,71,005	14,534	(a) 1,005	2	(c) 2	306
Total ..	20,777	11,74,304	(c) 35,844	425	38,764	1,035	33,298	22,237	12,46,366	28,392	4,41,104	1,226	..	5,787
OTHER AREAS.														
	Up to 1893-94.					Added during					Total.		Up to 1893-94.	
	Area in acres.		Cost.			Area in acres.		Cost.			Area in acres.		Cost.	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Northern Circle	4	1,322	Rs. 1,366	3,546	24,028	456	13,381	261	1,879	78	1,882	792	16,586	..
Central "	(d) 1,264	..	..	7,824	2,63,465	(c) 3,873	45,315	133	1,392	1,600	2,932	5,606	49,650	..
Southern "	..	549	..	14,536	62,635	2,484	18,489	431	1,742	603	1,397	3,518	20,918	..
Total ..	1,260	3,237	..	25,906	4,50,128	6,810	76,130	825	4,813	2,281	6,211	9,916	87,154	..

(a) As now revised by the Collector.

(b) By rectification of area.

(c) Abandoned.

(d) Transferred to other departments.

40. In *Ganjām* 73 acres were successfully planted with casuarina seedlings at an average cost of Rs. 44 per acre. An area of 6 acres was added to the casuarina plantation at Narsapur in *Górávari* at an average cost of Rs. 84 per acre. In *Kistna* the work of planting is being concentrated on two blocks, viz., Gopivaripalam and Karlapalam, to be completed in a systematic manner; 46 acres were planted up with casuarina during the year. The reduction in the cost of casuarina planting in the Central Circle has been maintained and the average cost in future will not exceed Rs. 35 per acre. There were 90 acres added in *Nellore*. Out of 48,600 seedlings planted, 6,150 died and have since been replaced. The average cost per acre amounts to about Rs. 10. The seedlings in the old plantations planted in blanks round wells are promising. There were few casualties in the date plantation of Allipuram and Sriharikóta during the year, but the condition of the plantation at the former place was not satisfactory owing to attacks of caterpillars. This will never prove a success; no extension is contemplated and the expenditure will be reduced to a minimum. In Sriharikóta the number of trees has dwindled and the plantation has been abandoned. An area of 80 acres was planted out with 4,028 cashew plants, of which one-third perished. The surviving plants look vigorous and healthy.

In *Cuddapah* 13 acres of the Hasanapuram plantation were sown with palmyras with indifferent success; the soil is sand. In the *North Arcot* district 30 acres of the Vanivedu plantation were replanted with casuarina and blanks on other plantations restocked. The percentage of casualties is large in Viringipuram and Ammundi. Casuarina planting in this district, away from the sea coast, and where in the hot weather water is some distance below the level of the surface, is attended undoubtedly with difficulty.

In the *South Arcot* district 115 acres were planted up with casuarina at a cost of Rs. 9-0-6 per acre. This low rate was due to wider planting, to better supervision and timely rains. The casuarina seeds obtained from the Tenasserim Circle, Burma, germinated freely and the seedlings are reported to be in excellent condition. In *Tanjore* 41 acres were planted with casuarina at varying distances. The plants apparently thrive best in the portions planted 6' x 6' and there is little doubt that this or 9' x 4' will prove the most profitable distance. In these plantations on the sea coast where the soil is pure sand, close planting is advisable as being better able to withstand the strong winds. The increased shade afforded is also an advantage. An interesting experiment was made in the North Coimbatore division to foster sandalwood by dibbling in seeds in clumps of scrub after clearing the weed and then protecting from injury by cattle, &c., by roughly fencing with thorns. The experiment is reported to have been a success and should be continued.

In the *Nilgiri* district 77 acres were planted under the Badaga plantation scheme with *Acacia melanoxylon*, *Acacia dealbata* and *Eucalyptus rostrata*. The blanks in the previous year's plantation were also restocked. About 90 per cent. of the young plants are dead. The results so far have not been encouraging. The expenditure during the year only amounted to Rs. 938.

In *North Malabar* 12 acres were planted with teak round Begur camp and 5 acres in a Kurumber tuckle (shifting cultivation); 15 acres were also planted with blackwood. In the Kanoth range 35 acres with teak and 100 acres with bamboo (*Bambusa arundinacea*) of an old clearing were planted in June 1895. Some 400 acres were sown with jack and 100 acres with *caryota urens*. The sowings of jack are a complete success.

In *South Malabar* at *Nilambūr* 120 acres partially planted in the preceding year with teak and *Swietenia macrophylla* were completed.

In *South Canara* broad-cast sowings were undertaken in many reserves. Germination was good, but from various causes very many of the seedlings have since succumbed.

Particulars regarding plantations, cultural operations and experiments and exotics are given in the appendix.

41. *Topes*.—Attempts are being made to dispose of the topes not required by the department either by handing over to other departments or by sale. This process has not yet been completed in all districts, but where it has been determined what

should remain under the control of the department, the topes have been or are being brought under reservation. It is hoped this matter will receive the early attention of Collectors.

(g) *Communications and Buildings.*

42. The following statement shows the outlay on communications and buildings during the period under report as compared with the previous year:—

	1893-94.	1894-95.
	RS.	RS.
Roads and bridges	41,421	32,007
Buildings	34,229	34,143
Other works	3,604	3,263

The expenditure under all the heads was less than that incurred in the preceding year. There were not many new road works undertaken during the year. This was due to the submission of a general scheme for the development of forest roads referred to in paragraph 18 of G.O., No. 31, Revenue, dated 22nd January 1895. Proposals have since been received from two Conservators, but being based on old conditions they will be affected by the recent policy limiting reservation to areas exceeding one square mile. The matter will require reconsideration in the light of the eventual orders which the Government may be pleased to pass as to what reserves below one square mile should be retained and what abandoned.

The question of a scheme for construction of forest camps awaited the preparation and approval of a type design. The matter was pending with Conservators. A list of the chief roads and buildings is given in Appendix H.

In the *Northern Circle* a sum of Rs. 7,358 was spent on roads. A very large portion of this expenditure was incurred in *Kistna* and next to it in *Ganjām*. In the last-named district the new works were limited to inspection paths, of which 38 miles were made.

In *Kistna* 21 miles of new roads were constructed in addition to the execution of repairs to the existing ones. In *Kurnool* an old road has proved useless, the trace being too steep. This is to be regretted and betrays an absence of careful consideration before the project was undertaken. The work in *Bellary* consisted of the construction of a bridle-path along the ridge of north-east range in Sandūr leased forests for 5 miles and the construction of cart-tracks in VIII (b) compartment of Ramandrug. The former work is being closed under the Conservator's advice pending decision of the future of this portion of the forest, and the cost of the latter work should properly have been debited to the operations and not shown as a capital charge.

In the *Central Circle* there was an expenditure of Rs. 4,539 on roads. Three miles of useful new roads were constructed in the Cuddapah district and the maintenance of the old ones was attended to. In *South Arcot*, the Tindivanam Taluk Local Board was paid a contribution of Rs. 1,500 for the construction of a road from Chengam to Paramanandal (a distance of 4 miles) which connects the Tenmalai ghāt road. The work in Salem consisted of a deviation to reduce gradients and the cost incurred was only Rs. 341.

In the *Southern Circle* the amount expended on roads was Rs. 20,110. There was a decrease under this head in Madura compared with the expenditure during last year. Three new works were executed including an inspection path. In *Tinnevely* considerable expenditure was incurred on roads. The only new work of importance executed during the year was the Pápanásam road upon which a sum of Rs. 7,333 was spent. There were no new works in North and South Coimbatore and the progress in Nilgiris and North Malabar was inconsiderable.

The expenditure on buildings in the Northern Circle continued to be large. Much attention was paid to this subject in Vizagapatam where a range office, two bungalows, five rest-houses and six subordinates' residences were added to the previous list of buildings. In *Górávari* two bungalows were constructed besides other small works, while in *Kistna* one rest-house and range camps at eight different places were built. The most important works executed in Kurnool were the construction of permanent stables and servants' quarters near the inspection bungalow at Atmakūr partially burnt in the previous year. Sundry works were executed also in Bellary.

In the *Central Circle* the expenditure on buildings was chiefly confined to repairs. A few rest-houses were however newly constructed in North and South Arcot and Salem. A rest-house was completed in the Chingleput district.

In the *Southern Circle* there were no works of importance except a new range office and quarters at Méttupálaiyam in South Coimbatore. A few rest-houses in Madura and Tinnevely and sundry other works in North and South Malabar were also executed.

43. *Tramways*.—The statement in Appendix I gives the results of the working of tramways.

In *Nellore* the whole of $5\frac{3}{4}$ miles of tramway at Sriharikóta was made use of, but the actual outturn was less than last year by 334 tons. For some months the fuel waggons were under repair. The fuel extracted consisted also largely of "Sulli" (fagot-wood) bundles. This material is bulky and the same quantity cannot be loaded upon a waggon. The net loss up to the end of last forest year was decreased by Rs. 596 and the balance of Rs. 961 will doubtless be made good within a year or two. In the casuarina range also there was a decrease of 675 tons due to loss of time caused by the removal of tramway from the plantations where it worked in 1893-94 to the new year's site of working. The net gain on the tramway up to end of 30th June 1895 was Rs. 14,970-14-8.

The tramway in Cuddapah continued to work at a loss, as mentioned in previous reports; there is little prospect at all events for many years that the working will prove a financial success.

In *South Coimbatore* compared with the estimated cost of carting the earning of the tramway showed a loss of Rs. 1,743. The value of the tram cannot be fairly gauged by this comparison alone. Its construction has enabled the department to bring to market wood which would otherwise have had to lie and rot in the forests.

CHAPTER V.

YIELD AND WORKING.

44. The subjoined abstract shows the gross yield and outturn of timber and other produce during the year as compared with the results of the previous year:—

ABSTRACT I.—Comparative yield as per Forms Nos. 69, 72-A and 72-B.

	Timber (in cubic feet) including sandalwood.		Fuel (in cubic feet).		Bamboos (in number).		Minor produce (gross value in rupees).	
	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.	1893-94.	1894-95.
1	2	3	4	5	6	7	8	9
By Government Agency ..	291,554	(a) 374,152	3,122,250	2,186,122	35,245	36,881	23,773	21,516
By purchasers (including confiscations) ..	2,734,778	2,364,873	9,061,738	9,839,061	25,198,215	29,716,807	(b) 7,65,430	(b) 8,58,966
Free grants ..	46,164	38,633	1,008	551	70,801	39,507	* 468	568
Total ..	3,072,496	2,777,658	12,184,996	12,025,734	25,304,261	20,793,195	* 7,89,661	8,81,070
Increase or decrease in 1894-95 as compared with 1893-94 ..	..	-294,838	..	-159,262	..	+4,488,934	..	+ 91,409
Percentage of increase or decrease over the previous year's total ..	..	-9.5	..	-1.3	..	+ 17.7	..	+ 11.6

* Rs. 1,395 was shown in excess wrongly in the previous year's abstract.

(a) Includes 290 cubic feet, being excess found on re-measurement of timber and sandalwood collected and taken to dépôt in previous years as per Form No. 70.

(b) Includes grazing fees.

The variations are explained under the respective heads. The usual statement of average yield per square mile and comparison with previous year is omitted. It has not been found possible with any degree of accuracy to distinguish between the outturn from unreserved lands or lands unreserved during part of the year but placed under control at a later period, and from areas under special protection.

Section I.—Departmental operations.

45. The number of trees felled (Form No. 68) and those converted into logs or scantlings during the year as compared with the previous year is shown in the following abstract:—

Year.	Balance on hand at the beginning of 1894-95.	Number of trees felled during 1894-95.	Total.	Converted into logs, &c., during 1894-95.	Balance on hand at the end of 1894-95.
1893-94	165 •	67,723	67,888	67,673	(a) 207
1894-95	207	60,039	60,246	59,934	312

(a) Of the 215 trees shown as balance at the end of the year in the return for 1893-94, 8 trees are reported not to exist. The correct balance was therefore only 207 trees.

There was a large decrease in *Nellore* (Central Circle) where the felling of miscellaneous trees suitable for fuel was restricted owing to the existence of a large stock of casuarina wood on hand at the end of the previous year. The decrease in *Nellore* was, however, counterbalanced by the increase in *Bellary* where departmental cutting was undertaken during the year under the provisions of the working plan for the Sandúr leased forests. Trees capable of yielding timber were cut in Sub-compartments 9 (b) and 10 (c) of the Ramandrug range and converted into poles and rafters, as also teak poles in the north-east and the Donimalai ranges. A demand for casuarina poles from the gold mining companies and the Government Telegraph Department was met by felling 2,832 trees in the *North Arcot* district as against none in the previous year. In the *Southern Circle* the large decrease in *Nilgiris* consequent on a smaller area of compartments felled in the plantations was to some extent made up by the increase in *North Coimbatore* due to cutting a large number of mathi and other trees in the demarcation lines.

46. The following abstract shows the produce collected and disposed of departmentally in 1893-94 and 1894-95:—

ABSTRACT J.—Produce collected and disposed of (Forms Nos. 69, 70 and 71).

Produce collected.	During 1893-94.			During 1894-95.		
	Quantity.	Cost.	Average.	Quantity.	Cost.	Average.
1	2	3	4	5	6	7
Timber C. ft.	287,940	RS. 71,512	RS. A. P. 0 4 0	(a) 371,103	RS. 61,083	RS. A. P. 0 2 8
Fuel	3,122,250	89,620	0 0 5	2,186,122	74,752	0 0 7
Bamboos No.	35,245	367	0 0 2	36,881	805	0 0 4
Sandalwood .. C. ft.	3,614	4,192	1 2 7	(b) 3,049	3,218	1 0 11
Minor produce .. Mds.	24,582	11,967	0 7 9	(c) 52,690	13,743	0 4 2
Total ..	..	1,77,658	..	..	1,53,601	..

Produce disposed of.	During 1893-94.			During 1894-95.			Stock on 1st July 1894.	Stock on 30th June 1895.
	Quantity.	Value.	Average.	(d) Quantity.	Value.	Average.		
	8	9	10	11	12	13	14	15
Timber C. ft.	291,008	RS. 1,95,164	RS. A. P. 0 10 9	364,055	RS. 1,93,930	RS. A. P. 0 8 6	{ (e) 154,772 (f) 100 1,116,305 } (g) + 100 -45,290	{ 1,61,713 1,011,036 } 1,942
Fuel	2,578,316	1,44,644	0 0 11	2,246,201	1,30,258	0 0 11	2,479	2,388
Bamboos No.	34,245	2,122	0 1 0	42,633	3,041	0 1 1	14,979	38,561
Sandalwood .. C. ft.	2,379	23,548	9 14 4	3,140	{ 30,599 (h) +10,970 }	13 3 9	..	..
Minor produce .. Mds.	56,368	23,773	0 6 9	29,106	21,516	0 11 10	..	..
Total ..	..	3,89,251	..	..	3,90,314	..	..	..

(a) Includes 5 cubic feet found in excess in dépôts as per Form No. 70.

(b) Do. 285 do. do. do.

(c) Do. 1 maund do. do.

(d) Includes that used departmentally, written off, &c., as per Forms Nos. 69 and 70.

(e) 100 cubic feet shown under timber in previous year's return have been converted into fuel.

(f) Shown in excess by mistake in 1893-94 report.

(g) Quantity on tank-beds in the Madura district omitted in the district return.

(h) Represents advance money received at the close of the year.

APPENDIX F.

STATEMENT showing the area of forest reserves closed to grazing, the area grazed over and the average number of cattle grazed per square mile during 1894-95.

Districts.	Area of reserved forests and reserved lands.	Area closed to grazing.	Area opened to grazing.	Area grazed over.	Number of cattle and sheep admitted.	Average number of cattle and sheep per square mile.
	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	NO. CATTLE.	
1. Ganjām	576	148	428	..	32,866 cattle. } 1,354 sheep. }	(a) ..
2. Vizagapatam	432	(b) 18	(b) 51	(b) 234	8,007	157
3. Gódvári	1,002	Not reported by the Collector.			15,389	..
4. Kistna	1,112	150	972	937	455,462	486
5. Kurnool	2,232	214	2,018	2,018	(a) ..	(a) ..
6. Bellary	564	215	349	(c) 18	19,844 cattle. } 28,107 sheep. }	(a) ..
7. Anantapur	513	113	400	..	28,136	(a) ..
8. Cuddapah	2,268	Not reported by the Collector.			61,408 sheep. } 15,320 cattle. }	(a) ..
9. Nellore	652	Leased out.			..	..
10. Chingleput	239	Not reported by the Collector.			21,234 cattle. } 19,474 sheep. }	(a) ..
11. North Arcot	1,136	64	1,072	..	154,445	143
12. South Arcot	866	13	853	..	235,133	(a) ..
13. Salem	1,347	58	1,289	..	278,242	(a) ..
14. Trichinopoly	237	22	215	208	57,957	280
15. Tanjore	33	1	32	19	763 cattle. } 2,299 sheep. }	161
16. South Canara	1,140	473	667	..	28,177	(a) ..
17. North Malabar	277	..	277	47	9,858	(a) ..
18. South Malabar	328	328	..	..	..	..
19. Nilgiris	451	5	446	..	29,038	(a) ..
20. North Coimbatore	1,717	(d) 235	1,482	1,482	134,344 cattle. } 22,948 sheep. }	(a) ..
21. South Coimbatore	587	58	507	..	24,860 cattle. } 14,370 sheep. }	77
22. Madura	651	Not reported by the Collector.			8,699 cattle. } 4,828 sheep. }	(a) ..
23. Tinnevely	430	26	404	159	28,452 cattle. } 7,670 sheep. }	228

(a) Not given by Collectors.

(b) Reserved lands notified by Collector are excluded from the figure.

(c) Open to free-grazing.

(d) Cattle belonging to people actually living within some of these areas are reported to have been allowed to graze on payment of fees.

NOTE.—Most of the Collectors have not reported the number of sheep separately from that of cattle and the area grazed over.

APPENDIX G.

Natural and artificial reproduction, cultural operations, improvement fellings, experiments and exotics.

NATURAL REPRODUCTION.

Northern Circle.

In *Ganjām* the reproduction of *sāl* is excellent and there is a good growth of seedlings. In *Vizagapatam* the growth is satisfactory in closed reserves except in the Golconda Agency where fires are destructive. Regeneration of teak in the Goragaballe tope reserve is very good. The success is attributed to ploughing up the land round the mother trees and sowing a cereal crop to nurse the young seedlings through the first hot weather. In *Gódvári* the flowering of bamboos along the Gódvári river has been followed by a dense crop of young bamboos and the reproduction of teak, konda thangedu (*Xylia dolabriformis*) and Nallamaddi (*Terminalia tomentosa*) in the Yernagudem range is reported to be good in the unburnt areas. It would have been interesting if the condition of the burnt areas had been reported; fires unless very severe are not inimical to the reproduction of teak, although they interfere with the subsequent development of the young trees. In *Kistna* in coupe 2 of the Guntūr, Babul working circle it was found that only 60 per cent. of the stools had coppiced, but their place has been taken in many parts by a luxuriant growth of seedlings. In Bollapalli, Mutukur and Venkatayapalam reserves, closed to grazing, it has been found that the reproduction from seed of Yepi (*Hardwickia binata*) is five or six times as much as in forests open to grazing. In the latter seedlings of inferior species predominate. The growth of *Hardwickia*, *Anogeissus* and *Chloroxylon* has been measured and compared with that recorded three years ago for the same trees. It is noted that the growth is slow and that *Hardwickia* shows the worst results. Casuarina coppice growth is being studied, as also the growth of mangrove. In *Anantapur* sample plots of one acre each were taken up in certain ranges to see whether protection against fire and grazing has any effect upon reproduction. It is too early to predict results. In *Bellary* natural reproduction is on the whole poor. The reproduction of *Hardwickia binata* is good in the Malapanagudi forest; elsewhere it is inferior, even in areas closed to grazing. It is doubted whether the areas supposed to be closed are really so, and in order to ascertain whether the poor reproduction is solely due to grazing an experiment is being tried by closing and fencing a 5-acre plot in each of the Chiribi and Malapanagudi blocks. Reproduction of date and palmyra in Nowlikallu, Kuppagal, Belagalem and Tungabhadra reserves is very good. Coppice regrowth in the felled compartments in the Ramandrug range and in the Chiribi reserved forest is satisfactory. In parts of the fire-protected areas in Kurnool, which escaped fire, a fair crop of seedlings is coming on. The coppice growth in the Chelama improvement fellings continues satisfactory. The heavy grass which suppresses or retards seedlings ought to be cut before commencement of fire season to diminish danger from fires and to give the seedlings a chance of getting a head of the grass in the early rains.

Central Circle.

In *Nellore* reproduction from coppice of *Eugenia jambolana*, *Albizia amara* and *Memecylon tinctoria* is good. In parts of the Seshachellam reserve in *Cuddapah* bamboo seedlings in the vicinity of the old clumps are plentiful. There is no improvement in the seeding of red sanders (*Pterocarpus santalinus*). *Hardwickia binata* and *Anogeissus latifolia* are the only two important trees in the district which appear to regenerate themselves successfully by seed. Coppice throughout the district is good, the chief exception being *Acacia Arabica*. In *Chingleput* coppice in coupes continues to flourish. In *North Arcot* reproduction from seed has been generally poor owing to scanty rainfall and grazing. In the protected areas of the Javadi, where there is little or only light grazing, reproduction of sandalwood from seed is abundant. There has been good growth of red sanders from coppice in coupes, while reproduction from seed is slow and uncertain. The regeneration of *Hardwickia binata* from stool is very promising. *Chloroxylon swietenia* (Satin-wood) and *Anogeissus latifolia* continue to come up well from coppice and seed. Many of the stools of casuarina in the plantation near Palmaner have thrown out coppice shoots. It remains yet to be seen whether here, as in most other places, the coppice shoots will not die. Experience hitherto has shown that casuarina can not be relied upon to coppice and in very few instances have the results proved satisfactory. In *South Arcot* regeneration in the sandalwood tracts adjoining hill villages is not satisfactory owing probably to heavy grazing of cattle. Reproduction from seed and coppice of other species is encouraging. *Bambusa arundanacea* is reported to have seeded profusely on the Tenmalais. In *Tanjore* natural reproduction from seed is not very marked. It is noted however that a large number of mangrove seedlings have sprung up in two blocks. The growth from coppice is good except casuarina. In *Trichinopoly* reproduction from stool and seedling is very satisfactory in the Cauvery right bank plantations. In *Salem* natural reproduction from coppice continues good, but the growth from seed is only noticeable in areas specially protected, i.e., closed to grazing. There is a fair show of sandalwood seedlings in the Singarapet coupes.

Compared with the collection of the preceding year the total quantity collected under timber, bamboos and minor produce shows an increase, while that under fuel and sandalwood shows a decrease. The increase under timber is noticeable, particularly in Bellary (Northern Circle), North Arcot (Central Circle), South Canara, North Malabar, Nilgiris and South Coimbatore (Southern Circle). The increase in Bellary and North Arcot is due to reasons explained in the preceding paragraph; for *South Canara* (which is principally under miscellaneous timber) and South Coimbatore explanations have not been afforded in the district reports. The increase in North Malabar is due to operations having been extended to the Peria Kanath ranges, and that in *Nilgiris* to the felling of a large quantity of vengai in the Mudumalai ranges for supply to two contractors. These increases were somewhat counteracted by the decrease in Ganjám (Northern Circle) and Tinnevely (Southern Circle) in which districts departmental operations were restricted to sale of standing trees in the former and by the absence of demand at remunerative rates for jungle wood in the latter district.

The decrease under fuel worked out by Government may be ascribed generally to the substitution of private for direct working and to the restriction of departmental fellings. In Gódávári, Kistna, Kurnool (Northern Circle), Nellore, North Arcot, South Arcot, Trichinopoly (Central Circle), Nilgiris, Madura and Tinnevely (Southern Circle) there was a falling off which was somewhat made up by the increase in Vizagapatam, Bellary (Northern Circle), Cuddapah and Salem (Central Circle), *South Canara and South Coimbatore (Southern Circle)*. The decrease in Gódávári is due to the substitution of the contract system for the departmental agency, that in Kistna to the revised rules under section 26 of the Forest Act, whereby ryots are allowed to take free of charge unclassified wood from unreserved lands for domestic and agricultural purposes. In Kurnool the decrease is accounted for by the cessation of work at Bailuti and the outturn of the Chelama fellings not having been measured up. In Nellore it is ascribed to the non-serviceability of fuel wagons for three months during the year and to a large stock of casuarina wood having been on hand at the end of the previous year. In North Arcot the large balance of 1893-94 had to be disposed of; this accounts for the short felling in the year under report. The decrease in South Arcot is attributed to the want of demand by the South Indian Railway for the mangrove-wood from the Chidambaram forests. The decrease in Trichinopoly is explained by the fact that in 1893-94, a considerable quantity of railway fuel on hand from previous years was for the first time brought to account. In Nilgiris the decrease is due to the smaller area felled over, and that in Tinnevely, to the non-opening of a few departmental coupes, pending preparation of simple working plans. In Madura it is ascribed to restricted fellings. The increase in Vizagapatam is due to more careful supervision and that in Bellary to the working of the leased forests as already explained. In Cuddapah and Salem there was an increased demand for engine fuel. In South Canara Compartment No. 7 in Sahjadi yielded a larger quantity than a compartment of equal area in 1893-94 and this circumstance, coupled with the yield of thinnings and uprooted trees in plantations, contributed to the increase. The increase in South Coimbatore has not been explained.

The increase under bamboos is slight and calls for no explanation. Under sandalwood the decrease occurred mainly in North Coimbatore, and it is due to the operations having been restricted to dead trees only.

Under minor produce a larger quantity of grass was collected in Bellary (Northern Circle) for supply to the Commissariat Department. The increase in Vizagapatam is only nominal and is due to variations in the method of calculation adopted by the District Forest-officer in showing the quantity of rellu grass in maunds. The collection of *Nuz-vomica* and soapnuts in Nellore (Central Circle) was also much larger than in the previous year.

The quantity of timber disposed of during the year is in excess of the previous year. The amount realized is, however, less, the reason being that the sales during the year under report consisted of a larger quantity of miscellaneous timbers and a smaller quantity of more valuable species, such as teak, rosewood, &c. The increase occurred mainly in Ganjám, Bellary, Cuddapah, North Arcot, North Malabar, Nilgiris, South Coimbatore and Tinnevely. Under fuel the total quantity disposed of shows a decrease on the whole, the decreases in Kurnool, Cuddapah, North Arcot, South Arcot,

Madura and Tinnevely being partly counterbalanced by the increases in Vizagapatam, Kistna, Bellary, Salem, Trichinopoly, South Canara and South Coimbatore. The variations under disposals of bamboos are small and call for no special remark.

The quantity of minor produce disposed of during the year shows a large decrease as compared with the previous year, but the decrease is only nominal, as in the previous year 26,553 maunds (mostly of grass) used departmentally or written off as wastage, &c., were included in the quantity sold as against 1,313 maunds similarly treated in the returns of the year under report.

The cost of collection generally varies according to the distance, &c., from which the produce is removed. The increase during the year under fuel occurred in Kurnool, Bellary, Salem and Trichinopoly, and that under bamboos in Salem and South Coimbatore. The decrease in the average rate at which timber was disposed of during the year is due to diminished sales of more valuable woods, such as teak and rosewood.

47. The subjoined abstract shows the quantity and value of timber and other produce removed by consumers and purchasers as compared with the results of the previous year:—

ABSTRACT K.—Produce removed by permit-holders on seigniorage or otherwise (Form No. 72-A).

	During 1893-94.			During 1894-95.		
	Quantity.	Amount of sales.	Average.	Quantity.	Amount of sales.	Average.
<i>Northern Circle.</i>						
Timber C. ft.	1,843,750	Rs. 2,15,256	Rs. A. P. 0 1 10	1,535,510	Rs. 1,20,765	Rs. A. P. 0 1 3
Firewood "	2,618,590	55,062	0 0 4	3,154,872	65,748	0 0 4
Bamboos No.	16,747,964	89,189	0 0 1	18,881,294	82,483	0 0 1
Grass and grazing "	..	96,831	..	..	1,27,568	..
Minor produce "	..	1,24,427	..	..	1,54,067	..
Total ..	..	5,80,765	..	..	5,50,631	..
<i>Central Circle.</i>						
Timber C. ft.	670,508	Rs. 63,096	Rs. A. P. 0 1 6	613,835	Rs. 55,270	Rs. A. P. 0 1 5
Firewood "	3,382,984	1,16,633	0 0 6	3,376,442	1,37,123	0 0 8
Bamboos No.	7,029,103	81,149	0 0 2	9,303,855	67,209	0 0 2
Grass and grazing "	..	1,15,283	..	..	1,39,047	..
Minor produce "	..	2,79,274	..	..	2,90,928	..
Total ..	..	6,55,435	..	..	6,89,577	..
<i>Southern Circle.</i>						
Timber C. ft.	175,290	Rs. 36,999	Rs. A. P. 0 3 5	168,053	Rs. 25,936	Rs. A. P. 0 2 6
Firewood "	2,937,942	69,772	0 0 4	3,281,737	78,792	0 0 5
Bamboos No.	1,402,531	20,845	0 0 3	1,319,408	21,135	0 0 3
Grass and grazing "	..	55,142	..	..	62,882	..
Minor produce "	..	93,597	..	..	84,020	..
Total ..	..	2,76,355	..	..	2,72,765	..
<i>Presidency.</i>						
Timber C. ft.	2,689,548	Rs. 3,15,351	Rs. A. P. 0 1 11	2,317,398	Rs. 2,01,971	Rs. A. P. 0 1 5
Firewood "	8,999,516	2,41,467	0 0 5	9,813,051	2,81,663	0 0 6
Bamboos No.	25,179,598	1,91,183	0 0 1	29,504,557	1,70,827	0 0 1
Grass and grazing "	..	2,67,256	..	..	3,29,497	..
Minor produce "	..	4,97,298	..	..	5,29,015	..
Total ..	..	5,05,505	..	..	5,92,971	..
Grand Total of sales, Rupees ..	..	15,12,555	..	..	15,12,973	..

The quantity of timber removed by purchasers and consumers shows a diminution of 372,150 cubic feet. Under the rules issued under section 26 during the year ryots obtained free from unreserved lands a portion of this decrease; in addition, in some

districts the cubic contents of trees on darkhast lands which in former years would have been shown have to be deducted. Under the latest instructions issued by the Board * with reference to the control of unreserved lands the decrease now reported from this cause will not recur. A large decrease occurred also in Ganjám due to the cessation of demand for sleepers by the East Coast Railway.

There is a considerable increase in the quantity of fuel extracted by consumers. Although this does not equal the decrease under Government working, there is no doubt if added to the actual free removals made by ryots since the introduction of the more liberal rules the total yield would increase that of 1893-94.

The total value of sales as compared with that of the previous year shows a net increase of Rs. 418 as shown in the margin. The decrease under timber occurred chiefly in the districts of Ganjám, explained above, Górávari, Kistna, North Coimbatore and Madura. In Górávari it is attributed to the absence of demand for timber of higher classes. The decrease in the other districts has not been explained in the district reports.

	RS.
Timber	— 1,13,380
Fuel	+ 40,196
Bamboos	— 20,356
Grass and grazing	+ 62,241
Minor produce	+ 31,717
	+ 418

Under *fuel* the increase occurred principally in Kurnool, Cuddapah, North Arcot, South Arcot, Salem and South Canara. The increase in Cuddapah is attributed to the realization of high prices from dry firewood put up to auction in the Seshachellam reserve, while that in North Arcot is due to larger sales (from coupes) in the Palmanér and Gudiyáttam ranges to meet the demand from the Kolar Gold fields. In South Arcot larger revenue was derived from darkhast lands, while in Salem the opening of a greater number of coupes accounts for the increase. In South Canara the increase accrued from the leasing of the right to collect and remove firewood in certain areas. The increase in Kurnool and a decrease in Górávari have not been explained. There was a decrease also in Trichinopoly due to a considerable falling off in the revenue from trees on darkhast lands in the Kulitali range.

Under *bamboos* the decrease occurs chiefly in Górávari and North Arcot. In Górávari permits were granted at reduced rates for drying bamboos. The decrease in North Arcot is but nominal, the previous year's figures included instalments due from contractors for the removals to be effected in the year under report. The increase under grass and grazing has already been explained in section (d) in Chapter IV.

Under minor produce the increase occurred in Kurnool, Bellary, Cuddapah, North Arcot and South Arcot. The increase in Kurnool is due partly to revenue from tangedu (*Cassia auriculata*) bark, partly to the transfer to "Forests" of the revenue derived from the lease of date trees and partly to better sales on the hills. In Bellary the increase resulted from leasing out the right to cut and remove tangedu bark and from keener competition in respect of amroy sales. In Cuddapah the increase was obtained from leasing out a larger area for cutting tangedu bark. The increase in North Arcot is due partly to reasons explained under bamboos and partly to several small sales having attracted a large number of bidders. The increase in South Arcot is only nominal as a large amount received in advance at the end of the year for produce to be removed in the current year stands included in the amount of sales. There were also decreases in certain districts, particularly in Nellore, Salem, Trichinopoly, South Canara and North Coimbatore. In Nellore the fall in the sales is attributed to the poor crop of tangedu bark in the taluks of Kandukur and Kanigiri, and that in Salem chiefly to the exclusion of palmyras from the minor produce contract and also to the separate sale of minor produce on public porambokes by the Revenue Department. In Trichinopoly it is ascribed to the credit to land revenue of tree-tax collected during the year, and in South Canara to a large portion of the sale amount having been received as an advance in the previous year. The decrease in North Coimbatore has not been accounted for.

48. The following is a statement showing the comparative cost of departmental and private working and the net profit derived from each class of produce under each system :—

Items.	Measure.	Quantity collected (Forms Nos. 69, 70 and 72-A).	Amount of sale-proceeds (Forms Nos. 71 and 72-A).	Add or deduct increase or decrease in value of stock in hand.	Net financial result (column 4 + or - column 5).
1	2	3	4	5	6
Departmental Working—					
Timber	Cubic feet.	371,103	Rs. 1,93,930	— 5,277	Rs. 1,88,653
Fuel	Do.	2,186,122	1,30,258	+ 4,407	1,34,665
Bamboos	Number.	36,881	3,041	+ 139	3,180
Sandalwood	Cubic feet.	3,049	41,569	— 5,396	36,173
Minor produce	Maunds.	52,690	21,516	+ 71	21,587
Private Working—					
Timber	Cubic feet.	2,317,398	2,01,971	..	2,01,971
Fuel	Do.	9,813,051	2,81,663	..	2,81,663
Bamboos	Number.	29,504,557	1,70,827	..	1,70,827
Grazing	..	..	3,29,497	..	3,29,497
Minor produce	..	..	5,29,015	..	5,29,015

Items.	CHARGES (Form No. 64).			Net profit or loss (column 6 - column 9).	Rate of net profit (column 10 ÷ column 2) per measure in column 2.
	A. Conservancy and Works.	B. Establishment and Contingencies.	Total.		
	7	8	9	10	11
Departmental Working—					
Timber	Rs. 61,083	Rs. 41,367	Rs. 1,02,450	+ 86,203	Rs. A. P. 0 3 9
Fuel	74,752	33,256	1,08,008	+ 26,657	0 0 2
Bamboos	805	649	1,454	+ 1,726	0 0 9
Sandalwood	3,218	7,300	10,518	+ 25,655	8 6 7
Minor produce	13,743	5,678	19,421	+ 2,166	0 0 8
Private Working—					
Timber	11,003	34,554	45,557	+ 1,56,414	0 1 1
Fuel	15,347	48,181	63,528	+ 2,18,135	0 0 4
Bamboos	9,307	29,201	38,508	+ 1,32,319	0 0 1
Grazing	17,951	56,292	74,243	+ 2,55,254	..
Minor produce	28,821	90,522	1,19,343	+ 4,09,672	..

NOTE.—In column 7, the actual expenditure as per Form No. 64 has been entered under the several heads of I (Departmental Working) while the total expenditure under II has been apportioned proportionately to the amount of sales realised under the several heads of II. "Receipts." The charges under "B. Establishment and Contingencies" have been arrived at as follows: from the total amount of expenditure under B. Establishment the cost of Special Forest Settlement-officers and Settlement establishments including travelling allowance, &c., has been deducted, and out of the remainder one-half has been left out as usual as being debitable to "formation, protection and improvement of forests." The other half has been allotted to the several heads of departmental and private workings in proportion to the total amount of sales (column 4) and expenditure under "A. Conservancy and Works (column 7) under the respective heads."

It will be observed that the profit under departmental working of timber and bamboos is much greater than that realised for removals by private agency. Under fuel profit under departmental working would have equalled that under private working had the cost of collection not been higher for reasons explained in paragraph 46 *supra*.

Compared with the previous year the net profit upon timber shows an increase of one anna and four pies and upon fuel of four pies. These results are due to the change in the system of apportioning the charges under "Establishments." Sandalwood also shows an enhanced profit; this is only nominal, as the receipts include a sum of Rs. 10,970, part-payment for wood not yet delivered.

49. The report upon the working of minor produce referred to in paragraph 21 in the Government review of last year has been submitted. It was decided to await further experience before initiating alterations. The system of collection must naturally vary with the different conditions of districts.

50. The sales of confiscated produce during the year under report as compared with those of the previous year are recorded in the subjoined abstract :—

ABSTRACT L.—Confiscation.

	During 1893-94.			During 1894-95.		
	Quantity.	Value.	Average.	Quantity.	Value.	Average.
<i>Northern Circle.</i>						
Timber C. ft.	15,756	Rs. 6,077	Rs. A. P. 0 6 2	34,412	Rs. 5,148	Rs. A. P. 0 2 5
Firewood "	31,643	787	0 0 5	5,714	176	0 0 6
Bamboos No.	10,531	55	0 0 1	207,140	2,517	0 0 2
Minor produce .. Money value.	..	123	..	..	57	..
Total ..	..	7,042	..	..	7,898	..
<i>Central Circle.</i>						
Timber C. ft.	6,937	2,178	0 5 0	6,975	1,054	0 2 5
Firewood "	13,772	888	0 1 0	7,292	372	0 0 10
Bamboos No.	5,662	85	0 0 3	2,196	84	0 0 7
Minor produce .. Money value.	..	245	..	..	118	..
Total ..	..	3,396	..	..	1,628	..
<i>Southern Circle.</i>						
Timber C. ft.	22,537	2,662	0 1 11	6,088	2,626	0 6 11
Firewood "	16,807	265	0 0 2	13,004	695	0 0 10
Bamboos No.	2,424	34	0 0 3	2,914	73	0 0 5
Minor produce .. Money value.	..	508	..	..	299	..
Total ..	..	3,469	..	..	3,693	..
<i>Presidency Total.</i>						
Timber C. ft.	45,230	10,917	0 3 10	47,475	8,828	0 2 11
Firewood "	62,222	1,940	0 0 6	26,010	1,243	0 0 9
Bamboos No.	18,617	174	0 0 2	212,250	2,674	0 0 2
Minor produce .. Money value.	..	876	..	..	474	..
Grand Total ..	..	13,907	..	..	13,219	..

The amount of sales under this head shows only a small decrease of Rs. 688.

51. The following statement shows the quantities of timber and other produce removed on free permits during the year under report:—

ABSTRACT M.—Free grants.

Districts.	Timber.	Firewood.	Bamboos.	Minor produce.	Total money value.
<i>Northern Circle.</i>					
Godavari	C. FT.	C. FT.	NO.	RS.	RS.
Kistna	5,340	..	400	..	2
Kurnool	2,150	..	5,375	13	445
Bellary	7,978	..	2,730	79	174
Anantapur	80	..	..	..	449
Total ..	15,548	..	8,505	92	10
Free grants of previous year ..	21,840	..	45,200	* 346	1,080
<i>Central Circle.</i>					
Cuddapah	8,800	..	4,950	318	930
Nellore	2,660	..	..	34	200
Chingleput	..	76	20	..	6
North Arcot	1,800	..	940	42	423
South Arcot	2,100	400	..	..	156
Salem	604	..	4,684	..	61
Trichinopoly	2,290	40	207	..	484
Total ..	18,254	516	10,801	394	2,260
Free grants of previous year ..	20,516	626	16,901	40	2,506
<i>Southern Circle.</i>					
North Malabar	3,262	..	13,276	10	720
Nilgiris	1,524	35	6,925	72	285
Tinnevely	45	..	..	..	11
Total ..	4,831	35	20,201	82	1,016
Free grants of previous year ..	3,808	382	8,700	72	662
Total free grants for 1894-95 ..	38,633	551	39,507	568	4,356
Total free grants for 1893-94 ..	46,164	1,008	70,801	* 453	4,892

* Rs. 1,395 was shown in excess wrongly in the previous year's statement.

No produce was granted on free permit in Ganjam, Vizagapatam, Tanjore, Madura, North and South Coimbatore, South Malabar and South Canara. The net results of the other districts show a decrease as compared with the preceding year. In most of these districts free grants were made for rebuilding houses destroyed by fire. In North Malabar and Tinnevely they were reported to be made to ryots for agricultural implements, and in Nilgiris to Todas and indigent Badagas for building huts, houses or temples. In Bellary and Cuddapah free permits were issued to ryots for removals of tangedu leaves for purposes of manure.

To encourage ryots to take up irrigated land in Cuddapah permission was also granted to remove leaves from reserves free. Towards the close of the year the concession had been little availed of and it has been decided to extend the permission for another two years.

CHAPTER VI.

FINANCIAL RESULTS.

52. The following statement shows the revenue and expenditure in each circle for the year under report as compared with the corresponding figures of the previous year:—

Items.	Circles.	Forest year, 1893-94.	Forest year, 1894-95.
Revenue	Northern	Rs. 5,04,314	Rs. 6,09,343
	Central	7,76,451	7,97,546
	Southern	5,62,950	5,70,293
	Total ..	19,43,715	19,77,182
<i>Expenditure.</i>			
A.—Conservancy and Works.	Northern	1,25,402	1,51,159
	Central	2,82,704	2,72,664
	Southern	2,73,634	2,85,779
	Total ..	6,81,740	7,09,602
B.—Establishment ..	Northern	2,01,317	2,18,711
	Central	2,52,572	2,71,374
	Southern	2,32,782	2,54,611
	Total ..	6,86,671	7,44,696
Total of Expenditure ..	Northern	3,26,719	3,69,870
	Central	5,35,276	5,44,038
	Southern	5,06,416	5,40,390
	Total ..	13,68,411	14,54,298
Net result	Northern	+ 2,77,595	+ 2,39,473
	Central	+ 2,41,175	+ 2,53,508
	Southern	+ 56,534	+ 29,903
	Total ..	+ 5,75,304	+ 5,22,884

NOTE.—These figures do not agree with the details in Form 64, as the Accountant-General has erroneously debited the Southern Circle instead of the Central Circle with the cost of the Survey of India Party.

The total receipts for the Presidency exceeded those of the previous year by Rs. 33,467. From the totals for the Presidency in the Accountant-General's Form No. 64 appended to the report, it will be seen that the increase under departmental working accrued principally from sandalwood and under V, "Miscellaneous." There was a large decrease during the year under II (a) "Timber" owing chiefly to the cessation of the demand from the East Coast Railway for sleepers. This has been nearly counterbalanced by the increased receipts from firewood, bamboos, grazing and minor produce.

The total expenditure under A. "Conservancy and Works" for all the circles exceeded that of the previous year by Rs. 27,862. The increase occurred mostly in the Northern Circle, chiefly under budget heads I (b) "firewood," VI (a) "purchase of cattle," VIII (f) "other works," owing respectively to (1) departmental cutting of firewood in Bellary, (2) purchase of new elephants and (3) employment of a larger staff of temporary watchmen, &c., in connection with the new grazing scheme in Kistna. The large decrease in the total expenditure of the Central Circle is mainly due to the item of Rs. 58,920 on account of the cost of forest surveys by the Survey of India Party having been erroneously debited by the Accountant-General to the Southern, instead of to the Central Circle in which the Survey Party continued to work during the year. For the same reason and owing to the payment of mesne profits to the Zemindar of Singampati in the Tinnevely district (in the Singampatti Forest Appeal Case finally disposed of by the Privy Council in favour of the zemindar), the expenditure in the Southern Circle shows a large increase.

The total expenditure under B. "Establishment" also increased by Rs. 58,025 in all the circles due mainly to the promotion of certain superior officers, to four new Assistant Conservators who arrived from England in December 1893 having drawn pay for the full year and to the payment of higher rates of exchange compensation allowance. The total expenditure both under A and B during the year amounted to 73.5 per cent. of the gross revenue against 70 per cent. in the previous year. The net surplus for the year under report is Rs. 5,22,884 against Rs. 5,75,304 for the previous year. Towards this surplus Cuddapah, North Arcot and Salem in the Central Circle contributed each 21, 17 and 15 per cent., and Kurnool and Kistna in the Northern Circle 18 and 14 per cent., respectively.

CHAPTER VII.

GENERAL REMARKS.

53. *Dehra Dun Forest School.*—Of the four subordinates deputed in June 1894 to the Forest School, one sent from the Northern Circle was obliged to return owing to temporary insanity. Only two men were sent in June 1895 both from the Southern Circle, one of them going as a private student. As regards the smaller number of officers deputed to the school, it may be explained that it is difficult to find subordinates answering to the requirements of the rules of admission as regards service and age. Further, the present stagnation of promotion in the lower grades consequent on the delay in obtaining sanction for augmenting the staff, has also been an impediment. For this reason the Conservator, Central Circle, did not consider it expedient to send any men at all last year. There are already several men with Dehra Dun certificates in each circle awaiting promotion to the Rangers' class, and there are others in the lower grades of Rangers without any definite prospects of further advancement.

The total number of trained men in the department at the end of the year was 67; of these 15 are in the Northern, 23 in the Central and 29 in the Southern Circle. Of the trained men five are extra Assistant Conservators, three Sub-Assistant Conservators (old scale), thirty-three Rangers, and twenty-six Deputy Rangers.

54. *Conduct of establishment.*—The conduct of the subordinate executive staff was on the whole good. In the Northern Circle a Ranger in Kurnool was reduced in connection with the forest scandals in that district, as also a Forester in Bellary for bad work. A Ranger in Ganjām resigned his appointment. In the Central Circle two Rangers in Cuddapah, two Foresters in Salem and a Forester in Chingleput were reduced; and one Forester in Salem resigned. Three Foresters (one in each of the districts of North Arcot, South Arcot and Salem) were invalided. The services of a Temporary Forester in Trichinopoly had to be dispensed with. Three Foresters (one in each of the districts of Cuddapah, North Arcot and South Arcot), and a fourth on the temporary staff in the first-named district were dismissed the service. In the Southern Circle one Ranger

was temporarily reduced for a month and a Temporary Supervisor reduced to a lower grade. One Forester resigned his post and the services of an Acting Forester and a Temporary Supervisor were dispensed with.

The conduct of the subordinate protective staff was in several districts far from satisfactory. A large number of guards, watchers and tannadars were convicted for extortion, and in consequence dismissed the service. A few were also reduced or suspended for neglect of duty.

55. *Health of the establishment.*—In the Northern Circle the year was as usual unhealthy in Ganjām and Vizagapatam, and most of the establishment suffered from fever. It was very prevalent also in Gódvāri and there were several deaths among the staff in this district as well as in Vizagapatam. In the other districts of the circle the health of the establishment was fairly good. In the Central Circle the health was generally good, except in the Salem district and in the Javadis and portions of the Chandragiri range of the North Arcot district. In the Southern Circle the health of the establishment was not satisfactory in South Coimbatore and South Canara, while in Madura, North and South Malabar and in Mudumalai and Segur ranges in Nilgiris fever was very prevalent and proved fatal in the case of a few subordinates.

56. *Elephants.*—In the Northern Circle four elephants were purchased during the year at the Sonepur Fair. These together with the tusker attached to the Direction office maintained good health. In the Southern Circle eleven elephants were captured during the year. Of these, two were sold, four died, and the surviving five are reported to be in good condition. Two elephants were purchased during the year, one for Nilgiris and another for South Canara. There were fifty elephants on the list in this circle at the close of the year and the majority of these is still too young for work. The total number of elephants remaining on the list in the Northern and Southern Circles is 55.

57. *Service books.*—Service books are reported to have been verified in all the districts except Vizagapatam, Gódvāri, South Arcot, North Coimbatore, North Malabar and South Canara. In Vizagapatam, however, the Acting Conservator reports that the required verification was made after the close of the year. As regards the other districts, no information has been furnished by the Collectors concerned.

58. *Inventory of valuable stock.*—The Collectors of Vizagapatam, Kistna, Kurnool and South Arcot report that the stock registers were kept to date. In Bellary the register is said to be maintained in the old code form. The Collectors of other districts have not furnished information on the subject.

59. *Rain-gauges.*—The results of rain-gauge readings were recorded in Kistna, South Arcot, South Coimbatore, North Malabar and South Canara.

60. *Work done by the Superior Staff.*—The opinions of the Conservators are as follows:—

Mr. Hooper, the Acting Conservator says:—

"He had no means of judging of Mr. Battie's work in Ganjām and that Mr. Jackson in Gódvāri has had his attention devoted especially to agency reports and settlement enquiries. Mr. Thornton in Vizagapatam has worked energetically and with considerable skill and would have achieved better success had he taken advice beforehand in important matters. The opinion of the Collector of Kistna regarding Mr. Lushington's zeal and perseverance and the cordial way he is ready to co-operate with his Conservator is fully endorsed. Mr. Lodge in Kurnool has worked energetically and Mr. Alwar Chetti in Bellary gave satisfaction to the Collector. Mr. Murray's work in Anantapur was chiefly confined to selection and settlement of reserves."

Central Circle.—Mr. Popert, the Conservator says:—

"He has every reason to state that all District Forest-officers have done their best. Mr. Brasier in Salem district, Mr. Porter in Trichinopoly and Mr. McIntosh in Cuddapah have worked particularly well. The former has had hard work with reservation and in putting down sandalwood thefts. Mr. Porter has made good progress with the selection of proposed reserves; Cuddapah is a very extensive charge, and Mr. McIntosh deserves credit for the progress in disposing of old blocks selected for reservation and for the improvement in the minor forest produce revenue."

Southern Circle.—Mr. Gass, the Acting Conservator, was unable to make any comments having assumed charge of the circle after the close of the year, but quotes the following from the notes of Mr. Cherry, the permanent Conservator:—

"Allowing for the insufficiency of establishment, I consider that all the districts have shown good progress, with the exception perhaps of Madura, in which matters are somewhat at a stand still owing to the new District Forest-officer being almost swamped by the arrears of office work that have accumulated.

"All the District Forest-officers and the Assistants not in charge have generally worked well and at their best.

"Mr. Peake has not had good health, and in other respects I am afraid is not strong enough for a large district.

"Mr. Marshall has at times been somewhat impatient of control owing to his desire to push on work faster than ways and means will allow."

As regards Mr. Foulkes' work in South Canara, the Collector writes:—

"This is the record of another year's steady hard work, the result of which is visible in improvements in all directions."

The Board sees no reason to differ from the opinions recorded by the Conservators with regard to most of the officers, but Mr. Peake seems to have had serious difficulties to contend with in Madura, and no action is being taken with reference to Mr. Cherry's remark regarding his not being strong enough for so large a charge pending receipt of a report from Mr. Gass, who recently thoroughly inspected the district when acting as Conservator during Mr. Peet's absence on leave.

FOREST DEPARTMENT.

APPENDIX A.

FOREST Settlement.

Particulars of balance of lands under settlement.

District.	Total number and area of blocks brought under settlement up to end of 1894-95.		Total number and area of blocks constituted finally as reserved forests up to end of 1894-95.		Balance at end of 1894-95.	
	Number.	Area.	Number.	Area.	Number.	Area.
1	2	3	4	5	6	7
<i>Northern Circle.</i>						
		SQ. MLS.		SQ. MLS.		SQ. MLS.
Ganjām	70	576	18	136	52	440
Vizagapatam	27	303	15	58	13	243
	a+ 1	b- 2				
Gōdāvari	77	1,001	55	521	22	480
		a+ 2				
		b- 2				
Kistna	125	798	79	645	54	152
	a+ 12	a- 3	a+ 4	a- 3		
		b- 1				
Kurnool	46	2,099	16	1,738	30	359
		a- 2				
Bellary	136	501	92	360	37	124
	d- 2	b- 13	a- 1			
	a- 6	c- 2				
		d- 2				
Anantapur	77	513	57	380	22	133
	e+ 2	e+ 2	a+ 3			
	a+ 3	b- 2				
Total ..	568	5,766	338	3,835	230	1,931
<i>Central Circle.</i>						
		2,312				
Cuddapah	157	a- 23	116	1,241	41	830
	a+ 5	a+ 9	a+ 5	a+ 9		
		f- 218				
Nellore	161	638	121	417	40	217
		b- 2				
		c- 2				
Chingleput	213	227	174	197	35	38
	a- 3	b- 1	a+ 1			
		c- 1				
North Arcot	143	1,091	113	967	30	124
		a- 1		a- 1		
South Arcot	217	866	122	464	91	385
	e- 4	b- 12				
		c- 5				
Salem	159	1,269	120	1,094	39	169
		a+ 4		a+ 6		
		b- 15		a- 11		
Trichinopoly	101	204	74	192	8	6
	a- 19	b- 1				
		c- 5				
Tanjore	21	19	21	19	..	..
Total ..	1,151	6,353	867	4,594	284	1,759
<i>Southern Circle.</i>						
South Canara	74	438	27	114	47	324
		274				
North Malabar	22	a- 8	a+ 8	151	12	126
		f+ 11				
South Malabar	28	299	8	39	22	260
Nilgiris	182	357	144	355	38	2
	82					
North Coimbatore	a- 1	1,651	a- 60	859	21	792
	c- 1		a- 1			
South Coimbatore	14	574	10	566	3	4
	c- 1	c- 4				
Madura	176	639	127	542	55	97
	a+ 6	a+ 1				
		c- 1				
Tinnevely	63	428	39	410	24	18
		g 1		g 1		
Total ..	644	4,660	422	3,037	222	1,628
Grand Total ..	2,363	16,779	1,627	11,466	786	5,315

a. Rectification. b. At settlement. c. Unreserved. d. Transferred to Anantapur district.
e. Transferred from Bellary district. f. Wrongly shown or omitted in previous year's return.
g. By rounding off fractions.

APPENDIX A.

Forest Settlement—cont.

Particulars of balance of lands under settlement—cont.

District.	Classification of balance in columns 6 and 7.											
	Settled and reported on.											
	Notified under section 16 during 1894-95, but reservation having effected only after 30th June 1895.		With Board or Government awaiting publication of notification under section 16.		Returned by the Board for revision and remaining either with Collector, District Forest-officer or Settlement-officer.		Total settled and reported on.		Settled, but not reported on.		Settlement proceeding.	
	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.
	8	9	10	11	12	13	14	15	16	17	18	19
<i>Northern Circle.</i>		SQ. MLS.		SQ. MLS.		SQ. MLS.		SQ. MLS.		SQ. MLS.		SQ. MLS.
Ganjám	..	..	..	..	19	344	19	344	13	72	20	24
Vizagapatam	2	8	4	59	..	..	6	67	2	11	5	165
Górávari	2	5	6	112	2	27	10	144	2	21	10	315
Kistna	2	2	12	10	1	8	15	20	9	17	30	115
Kurnool	1	1	2	7	..	..	3	8	7	68	20	283
Bellary	11	40	14	47	6	15	31	102	4	20	..	2
Anantapur	2	15	3	37	..	..	5	52	..	..	17	81
Total	20	71	41	272	28	394	89	737	37	209	104	985
<i>Central Circle.</i>												
Cuddapah	6	237	8	180	1	14	15	431	1	73	25	326
Nellore	2	2	16	109	..	..	18	111	6	61	16	45
Chingleput	..	..	15	7	5	4	20	11	12	16	3	1
North Arcot	1	2	2	5	2	19	5	26	7	26	18	72
South Arcot	5	34	33	44	2	30	40	108	39	252	12	20
Salem	2	11	11	58	..	..	13	69	7	29	19	71
Trichinopoly	..	..	..	..	..	..	..	..	7	3	1	3
Tanjore	..	..	..	..	..	..	..	..	..	..	..	..
Total	16	286	85	403	10	67	111	756	79	460	94	543
<i>Southern Circle.</i>												
South Canara	..	..	5	12	..	..	5	12	3	21	39	291
North Malabar	1	1	..	..	..	..	1	1	3	109	8	16
South Malabar	..	..	..	..	..	..	..	..	17	259	5	1
Nilgiris	..	..	5	2	..	..	5	2	..	..	33	..
North Coimbatore	..	..	7	318	1	212	8	530	2	1	11	261
South Coimbatore	..	..	..	..	3	4	3	4	..	..	..	..
Madura	1	3	2	2	9	21	12	26	43	71	..	..
Tinnevely	..	..	..	..	..	..	..	..	..	..	24	18
Total	2	4	19	334	13	237	34	575	68	461	120	587
Grand Total	34	361	145	1,009	51	698	234	2,068	184	1,130	318	2,115

APPENDIX A.

Forest Settlement—cont.

Particulars of balance of lands under settlement—cont.

District.	Of lands notified under section 4 in the year.																			
	1884-85.		1885-86.		1886-87.		1887-88.		1888-89.		1889-90.		1890-91.		1891-92.		1892-93.		1893-94.	
	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.	Number.	Area.
	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
	40	41																		
<i>Northern Circle.</i>		S. M.		S. M.		S. M.		S. M.		S. M.		S. M.		S. M.		S. M.		S. M.		S. M.
Ganjám	21	376	3	20	..	..	..	..	..	..	..	..	..	1	2	14	25	11	14	2
Vizagapatam	..	..	..	..	..	..	..	..	..	..	..	..	..	5	67	4	176	1	..	3
Górávari	..	..	2	182	1	9	2	19	..	..	16	237	1	33	..	..	..	..	..	..
Kistna	..	..	..	..	..	..	..	..	..	..	2	20	1	4	..	..	27	54	10	36
Kurnool	..	..	..	..	..	..	1	15	..	..	..	..	..	5	25	11	137	5	39	8
Bellary	6	26	..	..	..	..	..	1	11	..	..	..	..	..	..	16	34	12	37	2
Anantapur	1	34	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	8	28	13
Total	28	436	5	202	1	9	3	34	1	11	18	257	2	37	11	94	72	426	47	154
<i>Central Circle.</i>																				
Cuddapah	4	324	..	..	5	83	..	..	..	..	..	..	..	..	..	2	74	13	81	17
Nellore	1	65	1	88	..	..	..	..	..	..	..	..	..	..	..	..	..	17	11	21
Chingleput	..	..	..	..	..	..	..	..	..	..	..	..	1	..	2	10	1	..	24	17
North Arcot	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	24	18	75
South Arcot	..	..	4	53	1	2	1	2	1	6	..	..	4	134	..	..	35	123	34	42
Salem	4	30	..	..	..	..	1	2	2	8	4	40	..	..	..	..	..	13	31	15
Trichinopoly	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7	3	..	..	..	1
Tanjore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total	9	419	5	141	6	85	2	4	3	14	4	40	5	134	9	13	41	221	119	257
<i>Southern Circle.</i>																				
South Canara	..	..	1	23	..	..	..	..	..	..	..	..	..	..	..	..	..	..	34	87
North Malabar	2	70	1	40	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	8
South Malabar	..	..	..	..	..	..	12	19	5	240	..	..	..	..	..	..	..	5	1	..
Nilgiris	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	3	2	33
North Coimbatore	..	..	..	..	..	..	1	280	..	..	..	..	2	458	..	..	..	6	37	12
South Coimbatore	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	3	4	..	..
Madura	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	81	25	16
Tinnevely	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24
Total	2	70	2	63	..	..	13	299	5	240	..	..	2	458	..	..	35	85	74	146
Grand Total	39	925	12	406	7	94	18	337	9	265	22	297	9	629	20	107	148	732	240	557

APPENDIX B.

Causes of delay in the submission of final notifications of forest reserves.

Districts.	Causes of delay.															Total.
	Notified under section 16 during 1894-95, but with effect only from 1895-96, i.e., after 30th June 1895.	With Board or Government awaiting publication of notification under section 16.	Pending preparation of maps.	Awaiting disposal of appeals.	Awaiting expiry of time prescribed for appeal.	Only recently notified under section 4.	Awaiting payment of compensation.	Awaiting settlement of claims under inquiry.	Awaiting District Forest-officers' answers to claims, demarcation, &c.	Settled, but final report pending with the Collector or Forest Settlement-officer.	Pending with the Collector or Forest Settlement-officer for revision of notifications.	Awaiting replies to references made to Collector or Board.	Awaiting inspection by Forest Settlement-officer.	Other causes, i.e., awaiting return of records from the District Courts, information from Tahsildars, &c.	Total.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
Ganjam ..	..	..	..	..	..	1	..	5	..	13	19	4	3	7	62	
Vizagapatam ..	2	4	2	..	1	..	..	5	..	..	..	..	..	..	13	
Godavari ..	2	6	1	..	..	..	..	2	3	2	3	1	..	..	22	
Kistna ..	2	12	3	2	..	3	..	6	2	9	2	..	12	1	54	
Kurnool ..	1	2	3	..	..	3	..	1	2	2	..	..	11	7	30	
Bellary ..	11	14	..	..	..	..	2	..	2	1	..	1	..	6	37	
Anantapur ..	2	8	..	..	6	8	..	4	..	..	..	..	8	..	22	
Cuddapah ..	6	3	..	..	..	5	1	2	..	4	..	..	11	1	41	
Nellore ..	2	16	..	..	2	5	..	..	1	5	..	..	8	1	40	
Chingleput ..	..	2	..	..	..	..	1	..	..	2	..	..	..	..	35	
North Arcot ..	1	2	..	1	2	3	7	..	..	2	6	..	9	9	30	
South Arcot ..	..	33	..	..	..	..	..	..	..	22	..	..	4	14	91	
Salem ..	2	11	..	..	..	6	..	1	..	3	..	4	4	..	39	
Trichinopoly ..	..	..	..	..	..	2	..	1	2	1	..	..	16	7	8	
South Canara ..	..	5	..	10	1	..	1	..	..	..	..	..	..	19	47	
North Malabar ..	1	..	11	..	..	..	1	2	..	..	..	..	8	..	12	
South Malabar ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	22	
Nilgiris ..	..	6	..	..	..	..	..	33	..	..	..	..	..	..	38	
North Coimbatore ..	..	7	..	..	..	..	2	..	1	3	..	..	4	1	21	
South Coimbatore ..	..	..	11	..	..	..	..	..	2	19	11	..	..	9	3	
Madura ..	1	..	..	..	..	..	..	23	..	..	..	..	..	1	55	
Tinnevely ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24	
Total ..	38	145	31	13	11	36	15	85	13	89	41	13	107	99	736	

* The difference between this column and the total in Appendix C to Board's Proceedings, dated 17th August 1895, No. 509, is due to—
 (1) The labelling or division of blocks.
 (2) The reported blocks pending with the Board, Government, Collector, District Forest Officer or with the Forest Settlement Officer.

APPENDIX C.

RESERVED lands not under settlement in square miles.

Districts.	Up to 1893-94.	Added during 1893-94.	Added during 1894-95.	Total.	Transferred for settlement.				Balance remaining; reserved lands not under settlement.
					Up to 1893-94.	During 1893-94.	During 1894-95.	Total.	
1	2	3	4	5	6	7	8	9	10
<i>Northern Circle.</i>									
Ganjām	566	$\left\{ \begin{array}{l} 6 \\ a + 1 \end{array} \right\}$	$\left\{ \begin{array}{l} 3 \\ 131 \end{array} \right\}$	576	560	13	3	576	..
Vizagapatam ..	303	$g + 1$	$\left\{ \begin{array}{l} b - 2 \\ g - 1 \end{array} \right\}$	432	303	..	$b - 2$	301	131
Gódvári	1,013	$b - 12$	$\left\{ \begin{array}{l} a + 2 \\ b - 2 \end{array} \right\}$	1,001	1,013	$b - 12$	$\left\{ \begin{array}{l} a + 2 \\ b - 2 \end{array} \right\}$	1,001	..
Kistna	846	$\left\{ \begin{array}{l} 326 \\ d - 3 \end{array} \right\}$	$\left\{ \begin{array}{l} b - 1 \\ c - 77 \end{array} \right\}$	1,112	$\left\{ \begin{array}{l} 730 \\ d - 3 \end{array} \right\}$	$\left\{ \begin{array}{l} 36 \\ c - 9 \end{array} \right\}$	$\left\{ \begin{array}{l} 41 \\ b - 1 \end{array} \right\}$	794	318
Kurnool	1,915	39	$\left\{ \begin{array}{l} 281 \\ a - 2 \end{array} \right\}$	2,233	1,907	$\left\{ \begin{array}{l} 39 \\ a + 8 \end{array} \right\}$	$\left\{ \begin{array}{l} 145 \\ a - 2 \end{array} \right\}$	2,097	136
Bellary	507	$\left\{ \begin{array}{l} 47 \\ a - 4 \\ c - 3 \end{array} \right\}$	$\left\{ \begin{array}{l} 34 \\ b - 13 \\ c - 2 \\ e - 2 \end{array} \right\}$	564	445	$\left\{ \begin{array}{l} 47 \\ a - 4 \\ c - 3 \end{array} \right\}$	$\left\{ \begin{array}{l} 16 \\ b - 13 \\ c - 2 \\ e - 2 \end{array} \right\}$	484	80
Anantapur	397	$\left\{ \begin{array}{l} 36 \\ a + 9 \end{array} \right\}$	$\left\{ \begin{array}{l} 71 \\ b - 2 \\ e + 2 \end{array} \right\}$	513	400	$\left\{ \begin{array}{l} 36 \\ a + 6 \end{array} \right\}$	$\left\{ \begin{array}{l} 71 \\ b - 2 \\ e + 2 \end{array} \right\}$	513	..
Total ..	5,547	443	441	6,431	5,355	157	254	5,766	665
<i>Central Circle.</i>									
Cuddapah	2,070	$\left\{ \begin{array}{l} 80 \\ a + 7 \\ b - 11 \\ d + 9 \end{array} \right\}$	$\left\{ \begin{array}{l} 135 \\ a - 23 \end{array} \right\}$	2,267	$\left\{ \begin{array}{l} 1,564 \\ f - 218 \end{array} \right\}$	$\left\{ \begin{array}{l} 81 \\ a + 10 \\ b - 11 \\ d + 9 \end{array} \right\}$	$\left\{ \begin{array}{l} 268 \\ d - 23 \end{array} \right\}$	2,080	187
Nellore	589	$\left\{ \begin{array}{l} 18 \\ a - 7 \end{array} \right\}$	$\left\{ \begin{array}{l} 56 \\ b - 2 \\ c - 2 \end{array} \right\}$	652	570	$\left\{ \begin{array}{l} 18 \\ a - 7 \end{array} \right\}$	$\left\{ \begin{array}{l} 57 \\ b - 2 \\ c - 2 \end{array} \right\}$	634	18
Chingleput	212	27	$\left\{ \begin{array}{l} 3 \\ b - 1 \\ c - 1 \end{array} \right\}$	240	197	27	$\left\{ \begin{array}{l} 3 \\ b - 1 \\ c - 1 \end{array} \right\}$	225	15
North Arcot	992	$\left\{ \begin{array}{l} 76 \\ a + 1 \\ b - 3 \end{array} \right\}$	$\left\{ \begin{array}{l} 72 \\ c - 1 \end{array} \right\}$	1,137	994	$\left\{ \begin{array}{l} 76 \\ a + 1 \\ b - 3 \\ c - 3 \end{array} \right\}$	26	1,090	47
South Arcot	802	$\left\{ \begin{array}{l} 46 \\ b - 4 \\ c - 1 \end{array} \right\}$	$\left\{ \begin{array}{l} 40 \\ b - 12 \\ c - 5 \end{array} \right\}$	866	802	$\left\{ \begin{array}{l} 46 \\ b - 4 \\ c - 1 \end{array} \right\}$	$\left\{ \begin{array}{l} 23 \\ b - 12 \\ c - 5 \end{array} \right\}$	849	17
Salem	1,296	$\left\{ \begin{array}{l} 26 \\ a - 6 \\ d + 6 \\ d - 11 \end{array} \right\}$	$\left\{ \begin{array}{l} 41 \\ a + 15 \\ a - 7 \\ b - 14 \end{array} \right\}$	1,346	1,177	$\left\{ \begin{array}{l} 35 \\ d + 6 \\ d - 11 \end{array} \right\}$	$\left\{ \begin{array}{l} 57 \\ a + 15 \\ a - 7 \\ b - 14 \end{array} \right\}$	1,258	88
Trichinopoly ..	239	1	$\left\{ \begin{array}{l} 3 \\ b - 1 \\ c - 5 \end{array} \right\}$	237	200	1	$\left\{ \begin{array}{l} 3 \\ b - 1 \\ c - 5 \end{array} \right\}$	198	39
Tanjore	24	..	9	33	19	..	..	19	14
Total ..	6,224	254	300	6,778	5,705	270	378	6,353	425
<i>Southern Circle.</i>									
South Canara ..	1,024	$\left\{ \begin{array}{l} 69 \\ a + 20 \end{array} \right\}$	$\left\{ \begin{array}{l} 25 \\ a + 9 \\ a - 7 \end{array} \right\}$	1,140	135	$\left\{ \begin{array}{l} 87 \\ b + 2 \end{array} \right\}$	214	438	702
North Malabar ..	272	3	$\left\{ \begin{array}{l} 10 \\ a - 8 \end{array} \right\}$	277	$\left\{ \begin{array}{l} 261 \\ f + 11 \end{array} \right\}$	3	$\left\{ \begin{array}{l} 10 \\ a - 8 \end{array} \right\}$	277	..
South Malabar ..	331	$\left\{ \begin{array}{l} c - 2 \\ g - 1 \end{array} \right\}$	..	328	300	$\left\{ \begin{array}{l} c - 2 \\ g + 1 \end{array} \right\}$	..	299	29
Nilgiris	408	$\left\{ \begin{array}{l} 15 \\ a + 13 \end{array} \right\}$	14	450	328	$\left\{ \begin{array}{l} 15 \\ a + 13 \end{array} \right\}$	1	357	93
North Coimbatore ..	1,744	$\left\{ \begin{array}{l} b - 6 \\ c - 1 \end{array} \right\}$	$\left\{ \begin{array}{l} c - 19 \end{array} \right\}$	1,718	1,604	$\left\{ \begin{array}{l} b - 6 \\ c - 1 \end{array} \right\}$	17	1,651	67
South Coimbatore ..	591	..	$c - 4$	587	574	..	$c - 4$	570	17
Madura	637	$\left\{ \begin{array}{l} 16 \\ a - 2 \end{array} \right\}$	$\left\{ \begin{array}{l} a + 1 \\ c - 1 \end{array} \right\}$	651	625	$\left\{ \begin{array}{l} 16 \\ a - 2 \end{array} \right\}$	$\left\{ \begin{array}{l} a + 1 \\ c - 1 \end{array} \right\}$	639	12
Tinnevelly	411	..	$\left\{ \begin{array}{l} 18 \\ g + 1 \end{array} \right\}$	430	410	..	$\left\{ \begin{array}{l} 18 \\ g + 1 \end{array} \right\}$	429	1
Total ..	5,418	124	39	5,581	4,248	163	249	4,660	921
Grand Total ..	17,189	821	780	18,790	15,308	690	881	16,779	2,011

a. By rectification. b. At Settlement. c. Unreserved or disafforested.
 d. By rectification of areas constituted as reserved forests in previous years.
 e. Transferred from or to other district. f. Shown or omitted in previous year's return wrongly.
 g. By rounding off fractions.

APPENDIX D.

ABSTRACT of district reports in regard to the maintenance of maps in accordance with the provisions of section 81 of the Forest Code.

Northern Circle.

Ganjám.—Four range maps (scale 1 inch to a mile) and forty-three reserve maps (scale varying from 1 to 16 inches to a mile) were prepared. The maps are still wanting in some interior details.

Vizagapatam.—The district forest reference map has been maintained. It is reported that steps will be taken to prepare the rest of the maps prescribed. The want of a range map is to a great extent met by indicating in the taluk map (scale 1 inch = 1 mile) all reserves, forest stations, &c., and adding on the "agency" (unsurveyed) reserves from the Ordnance survey. Preparation of separate maps for each reserve will have to await survey by the Survey of India Party. Meantime maps showing outer boundaries are being prepared by joining together village maps in the "Ordinary tracts."

Góddávári.—The district map (1 inch = 4 miles) showing all reserves, roads, &c., has been maintained; as also a range forest map 1 inch = 1 mile. Separate maps for each reserve are also kept, most on 1 inch = 1 mile, others being enlargements thereof.

Kistna.—The office reference map (4 inch scale) is posted up to date. One inch scale maps have been mounted by the taluk and details as regards ranges and sub-ranges, &c., are shown therein. Separate maps for each reserve in 8 inch scale are in course of preparation.

Kurnool.—One copy of the office reference map was posted up and additional copies are being prepared by the Survey Department. Taluk maps (scale 1 inch = 1 mile) have been supplied to all range officers with reserve boundaries marked therein and posted up. There are separate maps for each reserve. These are on 4 inch = 1 mile scale and were prepared for forest settlement purposes.

Bellary.—The office reference map has been posted up to date. For range maps, taluk maps (scale 1 inch = 1 mile) are being used with required particulars entered therein. They are posted once in six months. Final maps are being prepared in the Madras Survey office.

Anantapur.—Only a skeleton map prepared on tracing cloth is kept for the district forest reference map. Separate maps (scale 8 inch = 1 mile) for each reserved forest have been prepared and sent to the Superintendents, Survey of India and the Madras Survey, for preparation of additional copies.

Central Circle.

Nellore.—Besides the original copies of reserve maps prepared for forest settlement purposes, nothing was done towards preparation of maps as, in several cases, extensions to the existing reserves are being proposed.

Chingleput.—A district reference map reduced to the scale of 4 inch to the mile has been posted up. Maps for each reserve are also being prepared.

Trichinopoly.—The office reference map has been maintained as also taluk maps with the required particulars posted therein. The reserve maps for the Trichinopoly, Kulitalai and Udayarpálaiyam taluks are in progress. The preparation of maps for reserves in Musiri and Perambalur has to await survey of the hill blocks by the Survey of India Party. Working circle map has been prepared for the Padugai plantations in the Kulitalai taluk.

North Arcot.—The district as well as the range reference maps have been prepared and posted up. There are maps for all reserves except those surveyed and awaiting survey by the Survey of India Party, but range officers have not yet been supplied with copies.

South Arcot.—The district reference map is posted up to date. The taluk maps (1 inch = 1 mile) are used for range reference maps. All the particulars are posted in these maps except hills, streams, &c. There are separate maps for all reserves (on a scale of 8 inch to the mile) except those which are subject to survey by the Survey of India Party. Maps for two working schemes indicating the division of compartment, &c., have been prepared on a scale of 8 inches to the mile.

Tanjore.—The district as well as the range reference maps with all particulars regarding forest reserves, roads, &c., shown therein are maintained. There are also separate maps for each reserve with topographical features and admitted rights indicated therein. These maps are on the 8 inch scale.

Salem.—The district forest reference map is posted up completely but not so the range reference map which is still incomplete for want of information from range officers. Maps for forty-six reserves have been received from the Survey of India and supplied to range officers.

Southern Circle.

Tinnevelly.—The district reference map (scale 2 miles to the inch) has been prepared with the necessary particulars noted therein, besides one on the scale of 4 miles to the inch. There are separate maps for each reserve but the interior details have not yet been marked.

Madura.—The district forest reference map has not been posted up completely. In most cases there are maps for reserves, but they have to be checked on the ground.

Nilgiris.—The progress made during the year was practically nil.

Coimbatore, North.—The district forest reference map is maintained. The preparation of the other maps prescribed awaits survey by the Survey of India Party. There are maps (scale 1 inch = 1 mile) in range offices, but they do not contain all the required particulars.

Malabar, North.—All the required maps exist, but the interior details have not yet been filled in.

Malabar, South.—The office reference map has been posted up to 30th June 1895. There are no range reference maps, but there are separate maps for each reserve though topographical features &c. have been shown only in one. Maps of two working circles are ready.

South Canara.—District reference map and separate maps for each reserve have been maintained. Range reference maps are in course of preparation.

Reports from other districts have not been received.

APPENDIX E.

STATEMENT showing area of reserved forests for which final maps have been prepared

Districts.	Area of reserved forests.	Area of reserved forests for which final maps have been prepared.	Districts.	Area of reserved forests.	Area of reserved forests for which final maps have been prepared.
	SQ. MLS.	SQ. MLS.		SQ. MLS.	SQ. MLS.
Ganjám	136	118	Trichinopoly	192	(c) 4
Vizagapatam	58	(a) 14	Tanjore	19	19
Góddávári	521	(b) ..	South Canara	114	90
Kistna	643	180	North Malabar	151	151
Kurnool	1,737	..	South Malabar	39	39
Bellary	360	18	Nilgiris	355	355
Anantapur	380	(c) 40	North Coimbatore	859	859
Ouddapah	1,250	1,152	South Coimbatore	566	566
Nellore	417	417	Madura	542	542
Chingleput	197	197	Tinnevelly	411	411
North Arcot	966	(c) 35			
South Arcot	464	464			
Salem	1,089	488	Total	11,466	6,159

(a) The figure given last year (29 square miles) is reported by the Collector to be incorrect.

(b) Only sketch and not final maps are reported to have been prepared for the areas.

(c) The figure is less than that entered in the corresponding appendix of 1893-94, but the difference is apparently due mainly to the misapprehension of the term "finally mapped" during 1893-94.

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Southern Circle.

In *Madura* coppice growth in the coupes worked in previous years is fair, but reproduction from seed is unsatisfactory except in areas protected from fire and grazing. The regeneration of teak from coppice shoots in *Tinnevely* is good. A large number of sandalwood seedlings have sprung up in the Alagarkoil Valley and at Courtallam during the year under report, and these with their predecessors of 1893-94 are reported to be thriving. In the evergreen forests and sholas the reproduction of *Kongu*, the chief timber of the district, is good, and that of the other species generally fair. In the plains reserves which consist of rocky and gravelly hills the growth of grass and scrub jungles has improved under protection. In the *North Coimbatore Division* with the whole area thrown open to grazing and only a very small area really protected from fire natural reproduction is anything but satisfactory. In the Kollegal range and the Bylore plantations sandalwood seedlings spring up fairly well in places where protection against cattle is enforced and the ground is cleared of grass and weeds. In *South Coimbatore (Tunacadavu range)* reproduction is good and the question is now how to foster it and prevent its suppression by bamboos and inferior growth. The matter was under consideration in connection with the report made by Mr. Popert after his inspection. In Pollachi, Sholakarai and Bolampatti coppice is very fair, that in the last-named range being exceedingly good. The coppice growth on the *Nilgiris* from the Australian *Eucalyptus* and wattles has, as usual, been excellent. The natural sholas on the plateau show a visible improvement under rigid protection from cattle, and reproduction in the forests on the lower slopes of the Coonoor ghat is fair in places that have escaped fire. The self-sown seedlings of sandalwood near the Northern Hay sandalwood plantation are progressing, but the plantation itself appears to show no improvement owing to non-clearance of the weeds. In *North Malabar* progress is not satisfactory. An interesting experiment was made in a "tuckle" (shifting cultivation) by having the area cleared of all scrub growth and of useless species. The result showed a good growth of seedlings of Blackwood (*Dalbergia latifolia*), Vengai (*Pterocarpus marsupium*) and Karimaradu (*Terminalia tomentosa*), which goes to prove that, if "tuckles" (shifting cultivation) is only allowed in bamboo forests and then cleared, say, twice in 4 or 5 years, the reproduction will probably be excellent. The Conservator suggests that the system of insisting on introducing timber tree seed with the grain seed and paying the cultivator at a certain rate for every hundred seedlings handed over, might be introduced with advantage. The suggestion, if it can be acted upon, is undoubtedly a good one, but even then in all probability it will be found that weeding or cleanings will be afterwards necessary. In *South Malabar* natural reproduction is fair in fire-protected areas, Nellikutta and Karimpoya. Elsewhere Irul (*Xylia dolobriiformis*) very readily reproduces itself in spite of constant fires. Regeneration from coppice shoots of Benteak (*Lagerstromia Microcarpa*), Karimaradu (*Terminalia tomentosa*) and Blackwood (*Dalbergia latifolia*) is excellent in low-lying places where not over-shadowed. In the Walayar reserve the growth from stools and seed is excellent. In the Chenat Nair reserve there is a fair growth of seedlings of Benteak (*Lagerstromia Microcarpa*), Vengai (*Pterocarpus marsupium*), Blackwood (*Dalbergia latifolia*) and Irul (*Xylia dolobriiformis*). Reproduction in South Canara is on the whole improving, but that of inferior species, especially Marwa and Tirwa, largely predominates to the detriment of the valuable species. A paucity of mother trees of the more valuable kinds is doubtless the chief reason for the absence of seedlings, and the few that do come up are naturally swamped by the predominance and more rapid growth of inferior species. Fires and grazing also play havoc.

ARTIFICIAL REPRODUCTION AND PLANTATIONS.

Northern Circle.

The additions to the area of plantations were mainly in Ganjam and Kistna and to some extent in Gódvári. The progress of casuarina planting at Agustí Nowgam, Ganjam district, has been as follows :—

In 1893-94 an area of 53 acres was planted up 6' x 6'; in 1894-95, 65 acres were planted 6' x 6' and about 7 acres 12' x 12'. The total work up to the close of the year has been the planting of 118 acres 6' x 6' and 7 acres 12' x 12'. The estimate has been largely exceeded, and although labour may prove cheaper and the work of replanting be less in this and succeeding seasons, the necessity for reconsidering the financial aspect of the work at the close of 1895-96 will be apparent. It is satisfactory to relate that the encroachment of sand is in a great measure checked. In Gódvári 6 acres in compartment No. 2 of Narsapur plantation were added to the list and planted with 6,108 casuarina. The seedlings planted in this as well as those planted in Bandammulanka in the previous year are reported to be doing well.

The work of planting in the Kistna district is now being concentrated on two blocks to be completed in a systematic manner. It is also proposed to prepare a regular working scheme for planting and felling operations. On the whole planting works carried on during the year have been regarded as successful with a single exception, viz., Kara reserve, where planting of cashew-nuts was almost a failure. In Gopivanipalem reserve 21 acres were planted with 12,500 casuarina.

and 1,000 sissu at a cost of Rs. 34 an acre. There were about 7,000 casualties during the year among the seedlings planted in the previous year. In Karlapalem reserve the planting of casuarina extended over 25 acres at a cost of Rs. 631, but the number of trees planted is not recorded; bamboos were also planted all round the edge of this reserve. The condition of both the casuarinas and bamboos is reported to be good. In *Bellary* 78 acres were added to the list—4 acres in Kuppagal and 74 in various other blocks. The 4 acres in Kuppagal were planted with various kinds of trees and inspected by the Conservator in July last. The work of the year was not altogether satisfactory; the pits were dug too shallow and too cheaply, and the saving thus caused is swallowed up in the extra watering. By deep planting the main object was to secure quickly grown young trees and thereby emancipate them from the local climatic drawback which check young growth in the Deccan. The previous two years' work has proved successful, trees of 3 years being up to 18 feet. The Conservator remarks: "It is premature yet to extend largely or cheaply; our knowledge of the requirements of the different species being only slight.

For this reason the work is classed as an experiment."

Central Circle.

In *Nellore* the average first year's cost of the casuarina plantations of 1893-94 was only Rs. 10 per acre against Rs. 31 of plantation taken in 1890-91. The large decrease was due to the care taken to keep the watering charges within reasonable limits. In all 90 acres were planted. In addition, in the old plantations of 1893 which are poorly stocked 2,700 seedlings were put out round wells; the result is very satisfactory. In the *Cuddapah district* the red sanders (*Pterocarpus santalinus*) in the plantation at Kodur continue to thrive. The trees are 29 years old with an average girth of two feet. It is reported that they do not probably develop as much heartwood as trees grown in the open on the hills. The Conservator remarks "the soil here is richer and the growth more rapid; but if trees of the same age were examined the amount of heartwood would be the same." In *North Arcot* the casuarina suffered severely from drought and hot strong winds. An attempt was made in Trichinopoly to sow broadcast in the plain forests and padugais. The seedlings died from the excessive heat. In Tanjore 40 acres were planted with casuarina at varying distances to determine which will prove in the long run the cheapest and most efficacious method of planting.

Southern Circle.

In *Tinnevely*, except the reclamation of the sandy waste of Kudaramalai Terri, no artificial reproduction worthy of note was undertaken during the year. A consignment of teak seeds was obtained from Coimbatore and the seeds after being soaked in water were dibbled in a compact area in the Mundanthorai block and the Courtallam forests. None germinated in the former, but the seedlings in the latter have attained a height of 1 to 3 feet and look healthy. Vengai, (*Pterocarpus marsupium*), *am* and other seedlings were tried in both the localities with similar results. An experiment was tried in the Pápanásam ghat forests with sandalwood seeds procured from South Coimbatore. The seeds were dibbled over a small area of scrub jungle, the ground being previously cleared of all undergrowth and dug up. The result was poor. The old sandalwood plantations in *North Coimbatore* are now treated as sandalwood compartments. The growth is not good and it is reported to be doubtful whether many trees will come to maturity. On the *Nilgiris* seventy seven acres were added to the Badaga plantation scheme. The area was planted with *Acacia melanoxylon* and *Dealbata* and *Eucalyptus rostrata* and the plantings of this and the preceding year proved a failure. In *North Malabar* a considerable area has been planted with teak in Kanóth and Begur and in "tuckle" (shifting cultivation) lands; and in the last-named, the District Forest-officer has planted in crowbar made holes at a very low cost per acre. Of the sandal seed put down in 1893-94 only 40 plants survived, the rest having been destroyed by pigs. A further quantity of 80 lb. of sandal seed was sown. The different species of bamboos and ceara rubber trees continued to thrive well. In *Nilambur* the teak and *Suietenia macrophylla* plantation were extended by 120 acres. The question of further extension has been considered in the revised working plan which awaits sanction. Some attempts were made in *South Canara* to assist reproduction in the shape of broadcast sowing. The result was a failure owing principally to the exceptionally hot weather and fires, &c., which destroyed the crop. Seven acres were added to the regular plantations.

CULTURAL OPERATIONS.

An experiment was made in *Bellary* of sowing date seeds in three blocks of reserves. It failed in two, while in the third 30 per cent. of the seed germinated. The date and palmyra seeds sown in the two preceding years are coming up well, except in the Bandri reserve in which date seeds sown the preceding year have not germinated. The 25 rain trees planted in the Mundrigi reserved forest are reported to be growing fairly well. Experiments were continued in *Nellore* of sowing in blanks and bare areas with *Strychnos nux vomica*, *Sapindus emarginatus*, *Cassia auriculata*, *Albizia amara*, &c. Broadcast sowing, sowing in drills and in patches were tried. The first two were unsuccessful; the seed germinated, but died during the hot weather. In the patch

sowings the *Strychnos nux vomica* and *Sapindus emarginatus* failed, the remainder is thriving. An attempt was made to grow casuarina without watering, it cannot be said to have been successful. The planting of cashew-nut at Tammampalam was continued during the year; 80 acres were stocked; about 30 per cent. of these have died. The cost of the work is nominal and the operation will be continued. The *Acacia Arabica* and *Albizia Lebbek* progress well in two reserves of the Cuddapah district, while palmyra and tasuarina have failed. In North Arcot there was a variety of operations. The work for the most part consisted of the introduction of useful indigenous species in various localities. Nurseries were formed and the seedlings transplanted from them into the open. These attempts may be regarded as purely experimental, the object being to ascertain the suitability of species to soils. Several experiments were made in different reserves with bamboo, sandalwood and teak plants. The experiment with bamboo fared but poorly, while that with sandal and teak was successful in the Karnaticghur reserve, the Ambur plantations and the Pedugavaripalli casuarina plantations near Palmanér. In South Arcot in the plain taluks where there is a scarcity of bamboos, nurseries have been formed and the seedlings will be put out during the rains in different reserves. This measure if successful will prove a boon to the neighbouring ryots. In the Annamalai reserve seeds of Thuringi (*Albizia amara*), Vagai (*Albizia Lebbek*), Konnai (*Cassia fistula*) and Vepan (*Azadirachta indica*) were sown in pits. The undertaking has been successful, 80 per cent. of the seeds having germinated. Casuarina seedlings were put out in the coast block of the Tirutturaippundi taluk of the Tanjore district to see whether the blocks selected on the coast for reservation are fit for casuarina; the result showed that they are. Seeds of different species were sown in the southern range in 49 acres after being ploughed. Though 75 per cent. germinated the seedlings died not having been able to withstand the hot weather. In Trichinopoly an attempt has been made to get the Padugais handed over by the Public Works Department planted up by ryots, the condition being that they should plant either bamboo or casuarina in return for which they were to enjoy the right of growing tobacco crops. This has answered fairly well in several cases. In the Tinnevely district cultural operations were confined to 604 acres and the results were, on the whole, unsatisfactory, owing, it is said, to want of timely rains. The growth of palmyra and cashew-nuts in the Terrais are however promising. In Nilgiris 27 kinds of *Eucalyptus* seeds obtained from Australia were sown in nurseries and all germinated well.

WORKS OF IMPROVEMENT.

In Ganjam creepers were cut over 12,377 acres at an average cost of As. 1-1 per acre. An experimental improvement felling was made in the Kariamba reserve over an area of 20 acres to ascertain the cost of felling and the revenue to be expected. This work cost Rs. 20 and the wood cut was sold at site for Rs. 81-3-0. The operation was financially a success. In Cuddapah creeper cuttings were done over 200 acres of the Balapalle working circle. In South Arcot with a view to incite and encourage local demand a large number of firewood coupes was sold during the year, the probable yield having been previously estimated by experimental fellings. The annual coupes are systematically arranged and the preparation of working plans would be a simple matter. In Salem the coupes sold during the year under review gave an average price of Rs. 8-0-6 per acre, as compared with Rs. 10-7-1 in 1893-94. The lower price realized was due to a larger area of rather poor growth having been sold in certain ranges, which reduced the general average. Various other coupes throughout the district were worked for fuel and to meet local requirements. The right to remove bamboos was sold to contractors who were bound by agreement to fell the same on proper silvicultural principles. Attempts were made in Madura towards localising fellings in the shape of departmental cuttings. Financially the cuttings were decidedly successful. In Tinnevely a new system of working coupes was introduced in Srivilliputtur and was found profitable. It consisted of selling the produce cut by contract, the cost of felling and conversion being borne by the contractor himself and the materials removed under supervision. The old system consisted of selling the coupe at so much an acre. The average profit per acre was Rs. 9-0-4 against Rs. 8-0-11 in the previous year. In South Coimbatore prickly-pear and stumps were removed from a coupe in the Singara tope working circle and seeds of timber trees sown with castor-oil seeds. In Nilgiris a certain amount of cutting of creepers and clearing of undergrowth was done in the Ootacamund plantations and in the town sholas in Coonoor range, the last on sanitary grounds. Ten acres of Benne teak plantations were thinned. In South Malabar almost all the plantations were weeded. Thinnings were made only in a few plantations and parasite clearing was done in Tirnillekana and Oravakad old plantations. Fifty four acres were cleared and thinned in South Canara, and the results are satisfactory.

EXPERIMENTS AND EXOTICS.

Acrocarpus fraxinifolius.—In Cuddapah all the plants put out in the plains have died, but those on Horsleykonda are doing exceedingly well at an elevation of about 3,400 feet. No further extension is contemplated.

Bahar grass.—In Nilgiris an experimental sowing of this grass was tried in the Segur range. The seed, though watered for a time, has only recently germinated. The results will be carefully watched.

Bamboos.—In Nilgiris the Japanese bamboos planted in Cully shola are doing very well, some of them being 12 feet high. The question of their propagation by offsets and future distribution is under consideration.

In North Malabar the *Dendrocalamus brandisii*, *Dendrocalamus longispathus*, *Bambusa vulgaris*, *Cephalostachyum pergracile* and *Beesha travancorica* continue to do well. A large number of cuttings of the golden Burma bamboo was made during the year. It is too early to record anything of the result. Of the 249 cuttings reported in 1893-94, 170 survive and have been planted out in the swamp in the Manantoddy garden.

In South Malabar the *Arundinaria brandisii* and *Dendrocalamus longispathus* planted along the bank of the rivers are growing well, as also the *Bambusa longispathus* and *Cephalostachyum pergracile* in Pokote and Mulathumanna. The *Bambusa vulgaris* in Airavellikava propagates itself freely from nodes. The *Arundinaria brandisii* planted at this place in 1879 continues to flourish, the largest tree measuring 20½ inches against 19½ inches in 1893-94. Ten nodes were planted in February last, of which four are doing well.

In South Canara the clumps of *longispathus* continue to thrive fairly well at Sabladi and Herur.

Burcklandia populnea.—In Nilgiris those planted in 1887 with a southern aspect have done well being 10 to 20 feet high. The others planted in a northern aspect in 1888 are only about 6 feet high.

Bixa orellana in North Malabar continues to thrive.

Ceara rubber.—In Kistna some Ceara rubber received from Conservator was planted in Weld reserve; 900 germinated; some quantity was sown elsewhere also with good results. There are 116 trees in the Tindivanam and Tiruvannamalai taluks, South Arcot district, varying from 20 to 30 feet high. The climate and the soil do not seem suited for the propagation of this species and it is questionable whether any of the existing trees will at any time yield rubber. No further experiment should be attempted.

In North Malabar, the trees grow like weeds and reproduce themselves readily. A large sample ball of rubber was collected and sent to the Director, Royal Garden, Kew, to be tested.

In South Malabar the Ceara are doing well. The largest tree is 38 inches in girth and the smallest 10 inches. The oldest is nearly 17 years. In January 1895, 100 trees were tapped and 10 lb. of rubber obtained therefrom were sent home to be tested and valued. The largest tree yielded 4 oz. of rubber and the smallest ½ oz. Four of the larger trees were found not to bleed at all. *Hevea* and *Castilloa* scarcely bled and from these only ½ oz. of rubber was collected.

Cephalis Ipecacuanha.—Out of 249 plants of 1887 transplanted on the Nilambur hill in South Malabar only 149 survive and they flowered fairly well.

Cryptomeria Japonica.—Planted in Nilgiris in 1887. Remain stunted.

Curtis fuginia.—Planted in Nilgiris in 1887. There are only a very few plants. The growth is very poor being only about 3 feet high.

Date.—In Bellary date seeds were sown in certain reserves, but the experiment resulted in a failure. In Chiribi block 30 per cent. of the seeds sown have germinated and the height of the plants is about 1 foot. The date seeds sown in the preceding years are coming up well.

There were 100 plants at Sriharikota in Nellore at the beginning of the year, of which only 55 survived at its close. In Cuddapah 40 more of the Persian Gulf dates died during the year, leaving only 31. The experiment in these districts is a failure and should be discontinued.

In North Arcot the plants raised from seed imported from Busrah in 1886 do not appear to succeed so well as the offsets imported from the same place in that year. Out of 59 plants originally raised from seed, 40 are flourishing and are 8 to 9 feet high. Of the 86 offsets put out originally, 75 now survive, having a height of 6 to 14 feet. A number of seedlings were raised from local seed and were planted out in Tiruvallam, but the mortality has been very great owing to two successive dry seasons.

In South Arcot there were 142 trees at the beginning of the year to which 2 were added. 27 died during the year, leaving a balance of 117 trees, their height varying from 3 to 12 feet.

In Trichinopoly the 30 offsets in Manatattai plantation are now 13 to 20 feet high. Of the 569 plants raised from seed in 1887-88, 29 trees are in Manatattai 3 feet high, and 41 in Lalapet, 6 feet high.

In Tanjore only 4 plants planted in 1881 in the South date gardens in the Vettangudi forest died, leaving 14 plants varying from 5 to 11 feet in height. There was no other mortality in the date plantations. No further expenditure should be incurred upon this experiment.

In South Malabar the date palms are not doing well, being planted in a very wet soil. There were 426 plants at the beginning of the year, of which only 133 perished.

Divi Divi.—In North Arcot 312 trees succumbed out of 2,236 living at the beginning of the year. If a market could be found for the pods, no difficulty would be experienced in growing this upon a large scale.

BUILDINGS.

Northern Circle.

Vizagapatam.—Two bungalows, one range office, five rest-houses and six subordinates' residences.

Góddavari.—Construction of two bungalows (one at Mulagalampalli and another at Mallavaram) and four out-houses.

Kistna.—A rest-house at Dachapalli and range camp at eight different places.

Kurnool—

- (1) Cooly lines at Chelama.
- (2) Re-roofing of the Polardom bungalow with corrugated iron.
- (3) Stables and servants' quarters near the inspection bungalow at Atmakur.
- (4) Re-building the Adutla bungalow partially burnt in 1893-94.

Bellary—

- (1) A range house at Adóni.
- (2) A forester's shed at Girgu.
- (3) A tanna shed at Yettmahatti.
- (4) Two forest guards' huts at Chiribi and Sunkudakal.

Central Circle.

Cuddapah.—An inspection shed at Venkatapuram.

Chingleput.—A rest-house at Sathiavedu.

North Arcot.—Two rest-houses (Satghur and Arungaldrug) and out-houses to four rest-houses.

South Arcot—

- (1) Reconstruction of the Kovuthumalai rest-house partly burnt previously.
- (2) Guards and watchers' lines at Paramandal.
- (3) A shed at Merkanam.

Tanjore.—Three tanna huts in Kodiakadu reserved forest, and two watchers' huts in the Talanayar and Tillavilagam reserved forests, respectively.

Salem.—Rest-house at Anchetty.

Southern Circle.

Tinnevely—

- (1) Re-roofing one of the bungalows at Kalivalaipil with corrugated iron.
- (2) Range office and rest-house at Athithondu.
- (3) A line of forest guards and watchers huts at Mundanthorai.
- (4) Stables to Kannikotti and Vellanad bungalows.
- (5) Stables and kitchen to Nazareth bungalow.
- (6) Latrine at Mundanthorai.

Madura.—Three rest-houses and one forest station.

North Coimbatore.—A tanna shed at Karaipalayam, &c.

South Coimbatore—

- (1) A new range office and quarters at Mettupalayam.
- (2) A stable near the range officer's quarters at Esalamanthurai.
- (3) Construction of inspection and camp sheds.

North Malabar—

- (1) Oodapallam Serambi was completed.
- (2) A stable for the Tirunelli bungalow and a kitchen and stable for Mukki Serambi.

South Malabar.—Kalserambi at Tiruvazhukunnam and Kariem.

APPENDIX I.

Tramway Statement.

STATEMENT showing the results of transport of wood by tramway compared with transport by country carts in Sriharikóta Range.

Capital Account, 1894-95.

Dr.	RS.	A.	P.	Cr.	RS.	A.	P.
To balance from 1893-94	20,376	13	3	By depreciation at 6 per cent.	1,242	5	6
Add cost of 6 showels purchased	12	8	0	„ balance of stock	19,463	5	9
„ cost of repairing ten wagons	316	6	0				
Total	20,705	11	3	Total	20,705	11	3

Revenue Account, 1894-95.

Dr.	RS.	A.	P.	Cr.	RS.	A.	P.
To working expenses	753	6	4	By balance written off	3,064	8	11
„ road-making, repairs, &c.	240	9	5				
„ interest at 4 per cent.	828	3	8				
„ depreciation at 6 per cent.	1,242	5	6				
Total	3,064	8	11	Total	3,064	8	11

Work done—2,414 tons of fuel carried over 5½ miles = 13,880 ton miles.

Actual cost of work—13,880 ton miles at about As. 3-7 per mile = Rs. 3,064-8-11.

Estimated cost of carting—13,880 ton miles at As. 4-3 per mile = Rs. 3,660-14-5.

N.B.—The increase in the length of the tramway over that of previous year is due to 1½ miles of the plant received last year from North Arcot—

ABSTRACT.

Year.	Profit.						Loss.				
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.		
1889-90	..	..	..	..	..	..	..	829	15	11	
1890-91	..	..	..	..	..	..	..	701	12	9	
1891-92	..	..	..	..	..	..	..	1,063	15	9	
1892-93	..	..	..	..	..	..	..	..	..	..	
1893-94	..	..	..	..	..	..	..	905	0	1	
1894-95	..	..	..	..	..	..	..	596	5	6	
Total							..	1,634	4	8	
Net loss up to the end of 30th June 1895							..	..	961	7	9

Casuarina Plantation Range.

Capital Account, 1894-95.

Dr.	RS.	A.	P.	Cr.	RS.	A.	P.
To balance from 1893-94	14,971	9	9	By depreciation at 6 per cent.	898	4	3
				Balance of stock	14,073	5	6
Total	14,971	9	9	Total	14,971	9	9

Revenue Account, 1894-95.

Dr.	RS.	A.	P.	Cr.	RS.	A.	P.
To working expenses	189	4	7	By balance written off	1,686	6	4
„ interest at 4 per cent.	598	13	6				
„ depreciation at 6 per cent.	898	4	3				
Total	1,686	6	4	Total	1,686	6	4

Work done—1,323-15 tons of casuarina wood carried over 4 miles = 5,293½ ton miles.

Actual cost of work—5,293½ ton miles at As. 5-1 per mile = Rs. 1,686-6-4.

Estimated cost of carting—5,293½ ton miles at As. 5-6 per mile = Rs. 1,832-0-5.

N.B.—The increase in the length of tramway over that of previous year is due to 1½ miles of the plant received from North Arcot—

ABSTRACT.

Years.	EXPENDITURE.							Profit.			Loss.		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	
1885-86	..	..	..	..	..	..	..	1,070	10	9	..	..	..
1886-87	..	..	..	..	..	..	..	2,610	13	3	..	..	..
1887-88	..	..	..	..	..	..	..	..	..	..	569	14	1
1888-89	..	..	..	..	..	..	..	2,998	10	0	..	..	..
1889-90	..	..	..	..	..	..	..	..	..	..	164	12	9
1890-91	..	..	..	..	..	..	..	3,479	1	5	..	..	..
1891-92	..	..	..	..	..	..	..	2,297	4	8	..	..	..
1892-93	..	..	..	..	..	..	..	2,799	13	9	..	..	..
1893-94	..	..	..	..	..	..	..	303	9	7	..	..	..
1894-95	..	..	..	..	..	..	..	145	10	1	..	..	..
Total							..	15,705	9	6	734 10 10		
Net profit up to the end of 30th June 1895							..	14,970	14	..			

In *South Arcot*, of the 56 trees that remained at the beginning of the year, 9 died.

There are 123 plants, 5 to 18 inches high in *South Canara*, which are being transplanted into Wandse depôt.

Edible prickly-pear.—In *Nellore* this is in a very satisfactory condition. There were 12 plants and 10 were added during the year by cuttings from the original plants.

Eucalyptus.—The various species of this tree in Sim's Park in *Nilgiris* are reported to grow fairly well. The germination of the various *Eucalyptus* seeds imported from Australia and sown in the Ebbanad nursery is a great improvement on the previous year.

In *North Malabar* the 45 *Eucalyptus* have now diminished by 5. One or two of the *Eucalyptus Globulus* species are very fine trees.

Ficus Elastica.—Two lb. of seed were obtained from Assam and put down in a nursery at Kanoth in *North Malabar*. About 200 cuttings were put out in the Dindimal forest and 50 at Mukki. Of the 130 cuttings planted in 1893-94, 38 survive. The trees in Manantoddy Forest Lodge compound continue to look well and grow fast, especially the larger ones.

Chinese guava.—In *Nilgiris* 60 of these plants introduced by the Conservator, Southern Circle, are well established and are about 4 to 7 inches in height. It is reported that it is intended to distribute them to the Government gardens at Ootacamund and Coonoor and among planters desirous of having them.

Grevillia Robusta.—These were planted in *Nilgiris* in 1888. The growth is very good both in height and girth. They are about 40 feet high.

Hevea brasiliensis.—In *North Malabar* the two plants at Manantoddy and the three at Kanoth continue to grow well.

Hevea Castilloa.—These trees are all doing well in *South Malabar*.

Landolphia Florida.—There are 34 plants in *South Malabar*, all of which thrive.

Mahogany.—In *Vizagapatam* the *Mahogany* seed sown at Kotali bungalow in June 1894, grew to a height of 6 feet and were transplanted round the bungalow. In *Kistna* 10 oz. of *Mahogany* was sent by Conservator, 2 oz. were sown in the Weld reserve, of which 161 seeds germinated. Some quantity was sown also in Kondapalli and none germinated.

In *Nellore* of the $\frac{1}{2}$ lb. of *Swietenia macrophylla* seeds supplied by the Conservator, one-half was sown at Tammarapatam, 153 seeds in pots (3 in each) and 80 seeds in beds prepared with manure. Only 55 in pots and 10 in beds germinated, and are thriving well. The other half was sown at Rapur with poor results. The casualties under *Mahogany* and *Swietenia macrophylla* at Sriharikôta are large, owing to destruction of plants by insects, 94 and 30 plants, respectively, survived against 129, 80 which remained at the close of 1893-94.

In *Cuddapah* various experiments were made in Kodur range. Every one of the plants in Balapalle working circle has succumbed, as they were evidently not watered, while those put out at the same time in plantations and regulary watered thrive well.

In *North Arcot* of the 243 *Mahogany* plants, raised in 1886 surviving at the beginning of the year, 22 succumbed; of the 200 plants of 1891, 31 died and of the 163 sown in 1893-94, 133 are still living. The ten-year old trees are 15 to 17 feet in height, whereas the 1891 sowings are 3 to 5 feet high. Out of the 120 seeds of *Swietenia macrophylla* sown at Palmanér in a nursery, only 16 germinated. Of a like number sown round the Mortana bungalow none germinated.

In *South Arcot* the *Swietenia macrophylla* and *Mahogany* seeds received from the Conservator were sown in the Ramapuram reserved forest and the germination was satisfactory. There remain now 186 of the former varying from 1 to 2 $\frac{1}{2}$ feet in height and 170 of the latter, 3 to 5 inches high. There remained 398 *Mahogany* trees at the beginning of the year, to which 140 were added. Three having died during the year, 535 trees survived at its close, varying in height from 1 to 55 feet. The trees are in a thriving condition.

In *Trichinopoly* out of 308 plants transplanted in 1886-87, there remain 25 in Lalapet, 57 in Kulitalai and 160 in Manatattai. Their average girth is uniform, 9 inches, while the average height in each plantation is 10, 18 and 19 feet, respectively. Out of the 183 plants imported from Madras there are 28 in Manatattai and 105 in Kulitalai, with an average girth 12 inches and height of 24 feet. Of the plants raised from the 4 lb. of *Swietenia macrophylla* seed received in May and July 1894, 720 remain. They are $\frac{1}{2}$ to 1 inch in girth and 1 to 2 feet in height.

In *Tanjore* 29 trees remained at the commencement of the year in the Vettangudi reserved forest; 9 died during the year, leaving 20 with height varying from 9 to 20 feet. Of the 50 *Mahogany* plants in the Cumbum range, *Madura district*, 12 were damaged by fire, of which 5 coppiced and 7 died.

In *South Coimbatore* the *Mahogany* plants planted last year have all died off.

In *Nilgiris* the few *Mahogany* plants round the Benne rest-house have done well, but have been attacked by the borer. One hundred and eighteen *Swietenia macrophylla* plants are basketted. It is proposed to plant them in the Moyar West reserve and, if possible, a few at Mudumalai. The *Mahogany* has not done well in *North Malabar* wherever planted, and the ill success is attributed to carelessness in selecting planting sites.

In *South Malabar* the *Swietenia macrophylla* tree in Chathambarai reserve, which is now 23 years old, measured 83 feet in height, 89 inches in girth at base and 67 $\frac{1}{2}$ inches at 5 feet from the ground against 82 $\frac{1}{2}$ feet in height, 86 inches in girth at base and 65 inches at 5 feet from the ground in the previous year. The trees planted in Pokote in 1890 to 1894 are all doing well. Of the 26 plants that remained in the Walayar reserve only 7 survive. The *Swietenia mahogani* trees planted in Airavellikava, Ramalore and Panangod, now fourteen years old, are stunted and deformed owing to frequent attacks of borers.

In *South Canara* 154 plants of *Swietenia macrophylla* were transferred to Wandse depôt and are alive; 150 more are in the nursery at Sabladi.

Osiers.—All the varieties of the osier cuttings in *Nilgiris* have gradually died out.

Peltosforium ferrugineum.—Of the 30 trees planted in 1886 in the Vettangudi reserved forest, *Tanjore district*, 24 remained at the commencement of the year, and they are doing well. Their height and girth vary from 18 to 39 feet and 1 to 4 feet, respectively.

Podocarpus elongatus.—These were planted in 1885 in *Nilgiris*. The growth is very poor, they being only 3 feet.

Panciflora.—Only a few in *Nilgiris* which are very small.

Pinus pinea.—These were planted in *Nilgiris* in 1892. They are very small, but look healthy.

Pinus longifolia.—These plants are in *Nilgiris*, and are gradually dying off.

Syncarpia laurifolia.—Planted on the *Nilgiris* in 1888, grow fairly. Some reach a height of 15 feet.

Sterculia alata.—Out of 84 plants in *South Malabar* that remained alive at the beginning of the year 2 died and the remaining 82 are doing well. The largest is 23 $\frac{1}{2}$ feet high and 10 $\frac{1}{2}$ inches in girth and the smallest is 4 $\frac{1}{2}$ feet high and 2 $\frac{1}{2}$ inches in girth.

APPENDIX H.

ROADS.

The following is the list of new roads and buildings completed during the year under report:—

Northern Circle.

Ganjâm.—Thirty-eight miles of inspection paths.

Kistna—

- (1) From Minchalapadi to Virabhadrapuram (8 miles).
- (2) From Kondramutta to Bollapalli (6 $\frac{3}{4}$ miles).
- (3) Portion (4 miles) from Adigoppula to Ramulapuram via Khambalakanama.
- (4) A cart-track (1 $\frac{1}{2}$ miles).
- (5) The second section of the Kondapalli hill road.

Bellary—

- (1) Bridle-path along the ridge of the North-eastern range (5 miles).
- (2) Cart-tracks in 8 (b) compartment of Ramandrug.

Central Circle.

Cuddapah.—Peddarallasagaru road (2 miles) and the Balapalle-Voyalpad road (1 mile).

South Arcot.—Chengam to Poramanandal (4 miles).

Salem.—Kandukotta to Anchetty.

Southern Circle.

Tinnevely.—The new Papanâsam road and the trace of Virusadi Chinnapattu bridle-path.

Madura.—Kudriyar road and Arisiparai inspection path and Vannathiparai cart-track.

South Coimbatore.—A bridle-path from Sungam to Tellikol.

Nilgiris—

- (1) A new road in the Kuppathi block (5 furlongs).
- (2) An inspection path (1 mile and 6 $\frac{1}{2}$ furlongs).

North Malabar—

- (1) Edatorai-Kurchiyat road (10 miles).
- (2) Pungady line to Coorg boundary (1 $\frac{1}{2}$ miles).
- (3) From Kubbany river in Pudi forests to join the Pudady Nambyar's road.

South Malabar.—An inspection path (28 chains long) and two miles of compartment road in Nilambûr range in block No. IX.