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கொள்ளப்பட்ட நாள் செப்-
1994 செப்பன்ருவர் முடிந்த நாள் செப்-
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சாபாரர்க்கும் உதவியாளர்
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உதவியாளர்
கையொப்பம் கையொப்பம்

AL ADMINISTRATION REPORT OF THE FOREST DEPARTMENT

FOR THE
FOREST YEAR ENDING 30TH JUNE 1916.

CHAPTER I.—CONSTITUTION OF STATE FORESTS.

1. ALTERATION IN AREA.

The following statement shows the abstract of changes in Forest areas:—

Northern
Circle.

Class.	Area on 1st July 1915.	Added during the year.	Excluded during the year.	Area on 30th June 1916.
Reserved forests	SQ. MILES. 4,616	SQ. MILES. 2	SQ. MILES. 13	SQ. MILES. 4,605
Do. lands	189	..	7	192
Leased forests	2	..	..	2
Total ..	5,117	2	20	5,099

One square mile in *Vizagapatam* and one square mile in *Chidambaram* were finally constituted reserved forests. Ten square miles in *Ganjām* were disafforested and three square miles in *Masala* were excluded owing to rectification of reserve boundary.

Two square miles by transfer to reserved forests, and one square mile, to rectify an error in the previous year's calculation were deducted from reserved lands. Five square miles in *Ganjām* were eliminated by the adoption of recomputed areas. The other changes were of minor importance.

2. *Reserved forests*.—The chief feature of the year was the disafforestation of 15,343 acres the details for which are noted at foot of Form No. 65. In *Anantapur*, an area of 4,094 acres was transferred from *West Cuddapah* and *Chittoor* districts and 1,164 acres were transferred to *West Cuddapah*. In *Nellore*, owing to resurvey of kancha areas, there was an excess of 5,423 acres and a deficit of 1,401 acres in certain cases.

Central
Circle.

Reserved lands.—Two thousand eight hundred and eighty-eight acres consisting of enclosures and extensions were constituted reserved lands. Four thousand nine hundred and eighty-three acres were transferred to reserved forests. Full details have been noted at foot of Form No. 65.

The total area of reserved forests and reserved lands at the close of the year was 5,825 square miles against 5,843 square miles of the previous year.

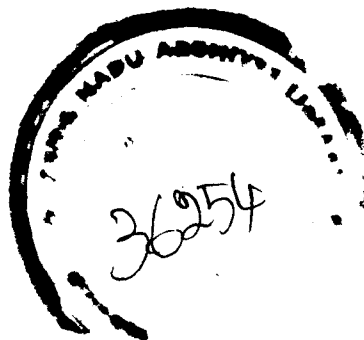
3. *Reserve forests*.—The total area decreased from 4,353 to 4,317 square miles. One thousand three hundred and eighty-five acres were added by transfer from reserved lands, 3,376 acres transferred to the Public Works Department, 1,203 acres disafforested and 15 acres deducted on account of alteration of reserve boundaries.

Southern
Circle.

Reserved lands.—One thousand seven hundred and thirty-four acres were notified reserved lands, 5,104 acres thrown out at Forest Settlement and 621 acres transferred to the Public Works Department.

4. *Reserved forests*.—The alterations are:—Ten square miles were transferred from reserved lands and six square miles disafforested. The net area of the circle at the close of the year was 4,142 square miles.

Western
Circle.



Reserved lands.—About three square miles consisting of additions to the existing reserves were added and ten square miles to reserved forests. The area at the close of the year was 96 which are leased forests in the *Nilgiris* and *South Malabar* and lands in the former district.

2. FOREST SETTLEMENT.

5. Thirteen blocks (499 square miles) remained unsettled at the commencement of the year, one block (less than $\frac{1}{2}$ a square mile) was added during the year, and three blocks (2 square miles) were transferred to reserved forests leaving 11 blocks (497 square miles) pending at the end of the year. Of these 11 blocks eight were pending with the Board and three with District Forest officers.

6. One block in *Anantapur* and one in *West Cuddapah* were finally settled during the year. Eight blocks are pending final disposal by Forest Settlement officer and six have been notified under section 4 and are undergoing settlement.

7. Settlement is complete except in North and South Salem and Trichinopoly. **North Salem.**—Of the four blocks comprised in the Udedurgam reserve, final reports for three have been forwarded to the Board and one is pending with the Forest Settlement Officer for submission of the final report since July 1915. The delay has not been explained.

South Salem.—The appeal filed in the Sessions Court by the claimants of the Aranba and Thirthagiri blocks against the decision of the Forest Settlement Officer was first posted for hearing to 29th September 1915 but was then adjourned by the Sessions Judge to 23rd October 1916. The settlement of the Jarugumalai block was transferred from the Revenue Divisional Officer to the Special Assistant Settlement Officer in Board's Proceedings, Forest Mis. No. 157, dated 3rd March 1916. The latter only perambulated in November last and passed orders on the claimants' delay of over six months. The appeal expired on 8th June 1916 but the section 16 notification has not yet been submitted. Eleven blocks of about 31 square miles (Veppadi 5 square miles, Vedambiam 5 square miles, 3 bits in the upper Pachamalais 2 square miles, Mannalai 5 square miles, Perumamalai and Kollimalai east and west slopes 2 square miles, and Paithur northern and southern blocks 12 square miles) have since been proposed for reservation and section 4 notifications for 5 of the blocks have been submitted to the Board.

Trichinopoly.—Gundur and Ariyur shola blocks were brought under settlement in January 1914 and August 1914 respectively. The final settlement is reported to be pending joint inspection by the Revenue Divisional Officer and the District Forest Officer and the delay is explained as having been due to change of Revenue Divisional Officers.

8. Four blocks in *South Canara*, six in *Kollegal*, three in *Central Coimbatore* and one block in each of the *Nilgiris* and *South Coimbatore* aggregating 10.53 square miles were finally settled during the year; two blocks (.74 sq. mile) in the *Nilgiris* were excluded from reservation. Four blocks (2.91 sq. miles) were brought under settlement. The balance under settlement was nineteen blocks (5.03 sq. miles), but the actual settlement of nine of these was completed. In the *Nilgiris*, the delay in the settlement of some of the blocks which are enclosures in reserved forests is reported to be due to the difficulty in identifying the actual boundaries of the fields, the survey stones of which were missing and in *North Coimbatore*, the settlement of two blocks was delayed by a Ranger who deferred making the valuation of tree growth on the lands.

3. DEMARCATION.

9. Four miles of external demarcation was completed in *Ganjām* at a cost of Rs. 88 and 679 miles were repaired at a cost of Rs. 3,551. Four thousand two hundred and sixty-eight miles were recleared by Forest subordinates free of cost. The average cost per mile of demarcation was Rs. 22 and of repairs Rs. 5-10-9 against Rs. 22-14-4 and Rs. 13-7 respectively in the previous year; the increase under repairs is due to higher rates paid for widening the lines in unhealthy and remote localities such as Chintapalle in *Vizagapatam* and Rampa in *Godāvari Lower* and to erection of larger number of new cairns.

in miles were newly demarcated in *Bellary* and *Anantapur Central Circle*. Rs. 418. Rupees 6,387 were spent in repairing 4,157 miles already demarcated. The decrease in expenditure is due to

and sixty-four miles of permanent demarcation with solid stone surrounded by well-packed cairns of stones, and with a lookspit or a two-foot wide stone alignment between the cairns, were completed.

11. Final demarcation was carried out in Trichinopoly and Madura over a length of 13 and 57 miles respectively. Rectification of demarcation was carried out in North and South Vellore, South Arcot, North and South Salem and Madura. A great deal of work in this direction has still to be done more especially in the demarcation of enclosures in North Salem and on the Javadis in South Vellore. One hundred and twenty-four miles remained to be demarcated at the close of the year of which 121 miles are in Madura. Rupees 1,271 were spent from Political Funds in demarcating the Travancore boundary to a length of 23 miles in Madura and 31 miles in Tinnevely.

12. **New boundaries.**—Twelve miles in *North Malabar*, six in *Kollegal* and two in each of the *Nilgiris* and *North Coimbatore* were demarcated at a cost of Rs. 1,351. **Old boundaries.**—Four miles in *Mangalore North* were stone-lined and lookspitted; much more of this work remains to be done in both the *Mangalore* divisions. Progress is delayed by differences between the boundaries notified and those on the ground. Forty-seven miles of boundaries and lines in the teak plantations in *South Malabar* were verified and cleared for survey by the Survey of India. Fifty-four miles in the *Nilgiris* and 32 miles in *North Coimbatore* were demarcated substantially in accordance with the verification by the special staff. The special staff in the former district have verified the boundaries of 49 reserved forests in the Ootacamund taluk, of which 39 have been demarcated. Eight miles of the new boundary between the *Nilgiris* and *Coimbatore* were demarcated and about 5½ miles roughly aligned. The progress on this work was interrupted by the absence of the officer in charge on leave and his subsequent transfer.

The length of lines reported to have been cleared or repaired free of cost by subordinates was 470 miles. In *South Canara*, the *Nilgiris* and *Kollegal* the subordinates continued to maintain the boundaries, but the results were not recorded and in *North Malabar* no such clearing was made.

4. FOREST SURVEYS.

(a) By Survey of India.

13. No new work was undertaken during the year. It is reported that the Index map for *Kurnool South* has been sent to the Press and those for the remaining two divisions of *Kurnool* would soon follow. Special Divisional map for *Kurnool South* is reported to be in the Press and similar maps for the remaining districts to be in different stages of completion.

(b) By Departmental Survey.

During the year Rs. 8,260 were spent on forest surveys. Final maps for reserves have yet to be prepared in *Kistna* for 124 square miles, in *Kurnool East* for three square miles, in *Kurnool South* for 95 square miles and in *Kurnool West* for 230 square miles. The field work during the year consisted chiefly in the verification of boundaries, alignment of roads and fire lines and preparation of coupe, Working Plan and other maps.

(a) By Survey of India.

14. During the year the party finally surveyed on 2" scale one reserve in *East Central Cuddapah*, two in *Chingleput* and four in *Chittoor* aggregating an area of 1.68, 20.72 and 6.94 square miles respectively. The party commenced work on 4" scale in *Nellore* district in April 1916 in accordance with G.O. No. 479, Revenue, dated 1st March 1916, and the work is in progress.

(b) *By Departmental Survey.*

In Bellary, a special staff consisting of an Extra Forests and two surveyors and four chainmen were employed reserves of Adoni range for the purpose of preparing a recon. stock maps and the report is under preparation and will shortly be

Survey of coupes, verification or rectification of boundaries of roads and the preparation of coupe, working plan and fire maps were done by the departmental staff. It is a matter for regret that the orders issued in B.P. Forest No. 150, dated 19th August 1909, that coupes should be surveyed before sale were not always properly attended to by the District Forest officers. Their attention has been drawn to the fact and they have been requested to particularly see that these important instructions are carefully attended to in future.

(c) *Maps.*

The reference maps referred to in section 80 of the Forest Code were maintained and posted in all districts.

(a) *By the Survey of India Party.*

15. No surveys were undertaken during the year.

(b) *By the Madras Survey Party.*

Revision survey operations were conducted by the Madras Survey party in Madura, and all the Forest discrepancy sketches received during the year have been returned verified.

(c) *By Departmental Survey.*

All coupes were surveyed by ordinary staff except in North and South Malabar where surveyors were employed and in Madura where similar work was done by a supervisor.

A variety of survey work such as surveying forests for preparation of original and revised working plans, verification of reserve boundaries and the surveying and aligning of roads was done by the existing staff and departmental surveyors.

(d) *Maps.*

Reference maps referred to in section 80 of the Forest Code.—These are reported to have been maintained in all districts.

(a) *By the Survey of India Party.*

16. The Survey of India did no work during the year.

(b) *Other Surveys.*

All fuel coupes, certain areas under cultivation in reserved forests in North Malabar and Kollegal, the verification of boundaries in the Nilgiris, the trace of a road in Kollegal and the alignment of a bridlepath in South Coimbatore were surveyed departmentally. A surveyor deputed by the Madras Survey Department rectified the errors in the survey of five of the estates on the Anamalais.

(c) *Maps.*

Reference maps under section 80 of the Madras Forest Code.—These maps were maintained and posted except the Range reference maps in Kollegal and South Coimbatore.

Special District Reference maps.—The Forest Map Officer completed the preparation of the maps of all divisions and his services were terminated on 31st March 1916. Some of the maps are pending publication in the Forest Map Office at Dehra Dun. According to the progress statement furnished by that office, the map of the Nilgiris was published and the maps of North and South Malabar were in the press during the year.

CHAPTER II.—MANAGEMENT OF STATE FORESTS.

I. REGULATION OF MANAGEMENT.

(a) *Preparation and Control of Regular Working Plans.*

17. *Preparation.*—On receipt of Board's orders communicating the remarks of the Government of India on the slow progress in the preparation of the Working Plans in this Presidency the attention of the District Forest officers of the Circle was drawn in Direction office C. No. 931 of 1916, dated 11th May 1916, to the necessity of completing the pending plans and of taking up those ear-marked for preparation. They were also requested to report which of the incomplete or contemplated Working Plans may be expected to be finished before 30th June 1917. A précis of their replies as modified by what was subsequently reported in their Annual Administration Reports is given below :—

Vizagapatam.—Besides Working Plans that are being drawn up by Mr. Stracey under the direct supervision of the Conservator, fuel Working Plans for Arlova series, a revised Working Plan for Narasapatam fuel working Circle in Sarvasidhi range, fuel Working Plans for (i) Bodlapad, (ii) Buchendri, (iii) Kothapeta, (iv) Bommica, (v) Kothavalasa, (vi) Rassulpeta, (vii) Avalangi, and (viii) Ichapuram and the submission of a Working Plan for the systematic working of bamboos in Palaconda range are expected, the preliminary information therefor having been collected.

Gōdāvari Upper.—The preliminary tentative Working Plan for the Marrigudem range will be ready shortly.

Gōdāvari Lower.—A revised Working Plan for Coringa reserve has been submitted to the Board, the preliminary Working Plans for Peddapur and Gokavaram ranges returned by the Board have been resubmitted after revision, and the preliminary Working Plans for Polavaram range and certain reserves of Rajahmundry range have been taken up.

Kistna.—The revision of the Working Plan for Upputuru blocks (i) and (ii) will be ready shortly.

Kurnool East.—A preliminary Working Plan for the Gudem range has been sanctioned during the year; that for Cumbum range has been submitted to the Collector; and the other plans which are to be drawn up on the lines of the above two will be taken up when the former are sanctioned; plans for Markapur and Dornal ranges were also promised by the end of June 1917.

Kurnool South.—The Working Plan for the Gundlakamma range and the revision of the plan for Owk range could not be completed for want of an assistant. Sirvel, Chelama and Giddalore range Working Plans will be taken up after the above two are completed.

Kurnool West.—The reserves were classified but recently and several Working Plans have to be made or revised; a Working Plan for Alamur tope reserve was drawn up by the Extra Assistant Conservator and it is under scrutiny; as this reserve has been placed under class (iii) by the Board and is likely to be sold the plan will probably be not required.

In Ganjam an interim Working Plan for seven Goomsur ranges has been sanctioned; as this is tentative, the preparation of a Working Plan based on the present administrative and sylvicultural conditions is being taken on hand.

18. *Control.*—The prescriptions of the sanctioned Working Plans have been generally adhered to except in the following cases.

Ganjam.—The work of numbering, measuring and listing wind-fallen trees was not undertaken as the order reached the Range officer late; a fuel and a bamboo coupe could not be sold for want of satisfactory bids, another fuel and another bamboo coupe were opened to meet an unexpected demand; estimation for a cart-track and initiation of graded coupe lines could not be completed for want of time on the District Forest officer's part, the diversion and building of a bridge proposed to a road were given up as they were found disadvantageous; the construction of a well was given up as the Local Fund Department contemplated the sinking of one near the forest bungalow; some other works were postponed for want of funds.

Gōdāvari Upper.—The preliminary tentative Working Plan for the Bhadrachalam range sanctioned in 1914-15 was not put in force during the year as further proposals are being made for working the forests in Bhadrachalam taluk; a preliminary plan for the Marrigudem range has been prepared and will be submitted shortly.

Gōdāvari Lower.—The prescriptions of the Working Plan for Kandikuppa Casuarina plantation were not followed as the area has to be disafforested after the standing growth is disposed of, pending sanction of a revised Working Plan for the Coringa reserve a tentative plan of operations based on the prescriptions to be observed is being followed with Board's approval.

Kistna.—The Working Plan sanctioned for the Mangrove forests of Divi taluk for ten years is being continued to compare the results achieved under the ten years' rotation in Upputeru and five years' rotation in Divi. One coupe for timber and another for fuel were not worked for want of demand.

Kurnool South.—The Working Plan for Owk palmyra extension sanctioned in 1911 has been cancelled as the area is to be assigned to grazing.

Kurnool West.—In the Nallamalai Terai the original system of improvement fellings in timber coupes was reverted to.

Central
Circle.

19. **Preparation.**—In *East Cuddapah*, the following plans were sanctioned by the Board during the year:—

(1) Red sanders timber forests in Palakondas, Sidhout range in B.P. Forest No. 3, dated 3rd January 1916; (2) Kodur Extension fuel working circle in Chitvel range in B.P. Forest No. 30, dated 21st February 1916; (3) Seshachalam fuel working circle in Kodur range in B.P. Forest No. 67, dated 26th April 1916; and (4) Kalasapad fuel working circle in Porumamilla range in B.P. Forest No. 628, dated 5th October 1915.

In *West Cuddapah*, the working of fuel and bamboo coupes in Lankamalai, *Nellore*, working schemes for Ayyavaripalli reserve and Atmakur working and revised working plan for Guindy Park in *Chingleput* were tentatively approved by the Conservator.

The following working plans are under preparation:—

In *Bellary*, a simple working plan for the forests of the Harpanahalli range and a reconnaissance report for the Adōni range forests by the Extra Assistant Conservator in accordance with Board's orders.

During the year, sanction has been received in G.O. No. 1389 (Confdl.), dated 17th June 1916, for preparation of working plan for Sandur leased forests. A Working Plan officer has been appointed for the purpose after the close of the year. In *Guntūr*, a preliminary Working Plan for Tadepalli and a revised Working Plan for Guntūr Babul working circle provisions of which ceased to be in force in 1913-14. In *West Cuddapah*, a scheme for Idupulapaya palmyra plantation and a Working Plan for working fuel and bamboo areas in Nallamalais. In *Nellore*, a working scheme for *Anogeissus latifolia* area in Chinna Annalur and for a scheme in the Kanigiri range. In *Chingleput*, revised plans for all working circles are under preparation in accordance with B.P. Forest No. 785, dated 11th December 1915. In *East Cuddapah*, the Working Plans of Rajampet fuel working circle and Palakonda Bullmen fuel plans sanctioned in B.P. No. 16, dated 16th February 1915, and No. 3, dated 3rd January 1916.

There are several plans requiring revision and the matter is under consideration and correspondence.

20. **Control.**—In *Anantapur*, Anantapur, Upaparapalli and Siripi reserves classed as V were thrown open to grazing. In *Guntūr*, the provisions for the Guntūr Babul working circle ceased to be in force in 1913-14. In *West Cuddapah*, three coupes were not worked as the areas were too large to be worked in a year. In *East Cuddapah*, *Chingleput* and *Chittoor* several coupes were not worked for want of demand. The Lankamalai Bullmen fuel working circle of *East Cuddapah* sanctioned in B.P. Forest No. 150, dated 1st August 1908, which was suspended for three years from 1912-13 will have to be abandoned in view of the timber improvement

Working Plan to be prepared for the Lankamalais. As observed in last year's report there is working plan work to be done in the circle sufficient to give employment not only to one but to two or three working plan sections for many years to come, but it is impossible to make any substantial progress under present circumstances on account of serious insufficiency of forest staff.

21. **Preparation.**—The Javadi sandalwood working plan and the supplemental working plan for the Chitteri forests referred to in the previous year's report were sanctioned during the year.

A working plan for the Palār river side plantations in North Arcot was prepared by the District Forest Officer and submitted for sanction.

The working plan for the fuel areas in *Madura district* was prepared by the Special Working Plans officer and is before the Board. This is a most important plan.

North Salem.—The Special Working Plans officer also completed the Hosur sandalwood working plan and submitted it after the close of the year.

South Salem.—Revision of the sanctioned working plans for Shevaroy's East and Kouramalai working circles was taken up during the year but not completed.

Trichinopoly.—A draft working plan for the Cassan forests of Udayarpalaiyam is said to have been prepared by the Range officer, but this work is useless as the forests are likely to be given up.

No reconnaissance report was submitted or this useless work might have been avoided.

Tinnevely.—A great deal of work is required in this district as nearly all the plans require revision and several new plans have to be prepared.

On the whole fair progress was made in this direction but the work that still remains to be done is overwhelming.

22. **Control.**—As long as the working plans themselves are so unsatisfactory there can be little effective control, but undoubtedly control has improved and the true position of working is gradually coming to light.

North Vellore.—Out of 47 current coupes and 312 arrear coupes, only 16 and 13 respectively were leased out. This is a very unsatisfactory state of affairs in a district so favourably situated in respect of markets.

South Vellore.—The control over sandal work is at last effective but the regeneration operations were imperfectly carried out.

The fuel operations are still unsatisfactory as 29 current and 156 arrear coupes remained unworked.

South Arcot.—This district is at present in a state of flux and in consequence existing working plans are completely upset.

North Salem.—In this district all the fuel coupes except those at the foot of the Shevaroy's are considerably in arrears. Coupes are too large and much inconvenience has been caused by attempts to mark standards in coupes where very few good standards are available. These mistakes have now been remedied.

South Salem.—Out of 31 fuel working circles, work was actually carried out in only 25 owing to the existence of over 100 square miles of unreserved forest in the Attur range which is still worked under the permit system. It is evident that it is useless trying to open fuel coupes in this range.

Trichinopoly.—A recent report has shown that for the past 15 and in some cases 20 years there has been no control over the fuel fellings in the important Vaiyampatti range. Coupes have been most irregularly worked, with areas totally different to those prescribed and in the wrong place.

In Nāmakkal and Musiri ranges the working plans have been so badly prepared that they were doomed to failure and no serious attempt has ever been made to carry them out.

Madura.—The working of coupes in Palamedu and Kanavoipatti ranges is generally in arrears chiefly for want of means of transport. Nineteen arrear coupes aggregating 835.95 acres were sold during the year.

Southern
Circle.

(b) Annual Plan of Operations.

Tinnevely.—In this district the simple working-plans have always proved a success, but they are now coming to a close and experience shows that the rotation of 10 years is too short. For some years work will have to be carried on in areas outside the present working circles and in Kuttalam especially the District Forest Officer has done good work in showing where such working is possible.

23. *Preparation.*—No new working-plans were either prepared or sanctioned. Mr. C. C. Wilson, the Special Working Plans Officer, with his staff was transferred from the Southern Circle just at the close of the year. He has since been engaged in the preparation of a working plan for the Tekadi leased forests.

Revision.—Mr. Bourne with a special staff is engaged in collecting data and statistics for the preparation of the final working plan for the teak plantations in South Malabar. The revised working plans for the forests of Mettupalaiyam range and for Tadagam reserved forest in Central Coimbatore were pending sanction. The revision of the plan for the forest of Erode range was not taken up pending settlement of the question of handing over some more forests to the management of the forest panchayats.

24. *Control.*—The provisions of the existing working plans were adhered to with the following important exceptions:—*South Canara.*—Karlike, Manaje, Chinkramale and Durgamale fuel and Karadka bamboo coupes were not exploited for want of demand; so also Sabladi fuel coupe on account of poor growth. The felling in Uppinangadi timber, Narimogar fuel and in some of the Coondapoor range fuel coupes was in arrears partly for want of sufficient labour and partly owing to slack demand, which is attributed to the large quantity of fuel brought to the market from unreserved and kumaki lands and to the effect of the war on tile factories. *North Malabar.*—The work in Begur and Chedleth coupes was behindhand. Coupe XIX of Begur was not completed as the trees in three of the sub-coupes had to be re-marked and felled; sub-coupes C to E of Chedleth coupe II were not felled for the same reason; the re-marked trees in sub-coupes A and B were sold, standing late in the year owing to difficulty in procuring a contractor. *South Malabar.*—The prescribed rotation for thinning teak plantations having been completed last year, the plantations laid down for the first year of that rotation were thinned. The *Nilgiris—Plantations.*—Compartment 12 of Acacia working circle prescribed for 1914-15 was felled during the year; the felling in compartment 18 of the same circle was postponed for want of labour. Thinning in Newman plantation was not carried out as the material obtained from the clearing of compartment lines was sufficient for the manufacture of charcoal. *Kollegal.*—The provisions of the working plans for the sandalwood areas in Bailur and Madeswarana reserves were not carried out as the first rotation was over in 1910-11 and the working according to the same prescriptions could not be followed owing to the havoc caused by spike disease. Spiked areas were felled. The working plans for Talamalai range in North Coimbatore, for Bolampatti (except Chinnar working circle) in Central Coimbatore and for Talinji working circle in South Coimbatore remained unworkable. The prescriptions of the working plan for the forests of Erode range were not followed so far as the areas handed over to the panchayat management were concerned. *South Coimbatore.*—Felling timber in the Varigali valley was postponed for want of an expert road and was stopped in Punachi working circle in the effort to find a contractor for purchasing standing timber which was not successful. The size of coupes in the fuel working circles was not adhered to owing to the impossibility of working the areas prescribed in the plans and the prescriptions regarding weeding, etc., were not carried out.

25. *Preliminary Working Plans Reports.*—*South Canara.*—A working scheme for the extraction of overmature timber from some of the forests in Uppinangadi and Puttur ranges exploitable by the Kumaradhari, Gundia and Yenekal rivers was prepared under the Conservator's instructions by Mr. Hart. These areas are included in the working plans already sanctioned. Three fuel and one bamboo coupes in Kollegal, nine fuel, ten bamboo and three sandalwood coupes in North Coimbatore, one fuel and three bamboo coupes in Central Coimbatore and two fuel coupes in South Coimbatore were as usual worked systematically. It is time that formal schemes were prepared.

26. The sanctioned plans were generally followed, except as detailed under Northern Circle.

Ganjām.—Kamala powder and Bassia latifolia seeds were not collected for want of demand; a fuel coupe was not worked as the area was intended to be made over for panchayat management; the construction of a bridle-path was not taken up as it was found unnecessary; a well in a Range office compound was not sunk for want of funds; the collection and burning of unsaleable wood on some fire lines were not undertaken as the condition of the lines was sufficiently good.

Visagapatam.—The construction of a rest-house at Kristnapuram was postponed for want of funds.

Gōdāvari Lower.—Some urgent works were given preference to ordinary works sanctioned in the plan.

Kistna.—Repairs to five roads, clearing some coupe and boundary lines, rectification of four reserve boundary lines, construction of two dingies (boats) and three subordinates' sheds, surveying and cutting lines in three Mangrove forests, fencing with prickly-pear a small area and sowing tabul seed thereon in Bander Fort extension reserve; digging inner channels in a coupe had to be given up owing to financial stringency; certain cultural operations had to be given up for want of proper seeds; repair of a well was not undertaken as it was full owing to heavy rains and the widening and deepening of a channel which was found unnecessary was given up.

Kurnool East.—Certain cart-tracks and buildings were not taken up for want of funds.

Kurnool South.—Certain roads and buildings had to be postponed to effect economies during the war.

Kurnool West.—The projects for the Pangidi-Sudam-Kuruva road and the road two miles up the Penagonda valley were abandoned.

27. The sanctioned plans of operation were not generally adhered to owing to financial stress and to transfer of reserves to panchayat management. The chief deviations are: In *Bellary*, demarcation and stone wall works had to be postponed. In *Guntūr*, only half the number of coupes proposed were sold for want of demand. In *West Godavari*, Block I of Palakonda bamboo working circle was worked instead of Block III; road and building works were postponed for want of funds. In *East Godavari*, two road works not provided for in the plan had to be taken up on account of their urgency. In *Nellore*, a building work was not undertaken owing to amalgamation of a range and two well works for want of funds. In *Chingleput*, two branch roads and subordinates' quarters and three wells were postponed for want of funds. In *Chittoor*, demarcation and construction of building works were stopped owing to financial stress.

28. Besides the deviations mentioned in paragraph 22 supra, the other important deviations were:—*North Vellore.*—Repairs to Yedayampatti-Kanavur road and Bhargal-Naickeneri road and bunding of streams in Paravamalai and Erranayakaneri were not carried out for want of funds and timely estimates. *South Vellore.*—Construction of rest-houses at Pudur and Reddiyur and repairs to Nadanur rest-house were not taken up owing to the paucity of subordinates and to the difficulty of getting contractors. The sinking of wells at Maudiparai, Pudur and Kuttathur also had to be postponed. *North Salem.*—A considerable amount of work outside the working plan had to be done in connexion with "spike" disease. *South Salem.*—The construction of five roads and two rest-houses was postponed for want of funds. *Trichinopoly.*—The construction of subordinates' quarters at Putiansholai and the rest-house and out-houses and servants' quarters at Nadukombai was postponed for want of funds. *Madurai.*—The construction of almost all new roads, bridle paths and buildings was postponed for want of funds. The extension of the pine plantations on the Upper Palanis has been stopped.

29. Besides the deviations mentioned in paragraph 24, the only important deviations were:—*South Canara.*—The elephant-capturing operations were stopped owing to an outbreak of anthrax. One cart-track and two roads were not constructed as they were unnecessary. Charmadi-Shiradi road, the Ranger's quarters at Coondapoor

and the Deputy Rangers' quarters at Kollamuguru and Sitanadi were postponed for want of funds. The demarcation of forests was not undertaken pending verification of boundaries. *North Malabar*—Some of the roads were not widened and a well at Kuppadi was not sunk, on further consideration they appeared to be unnecessary. Deputy Ranger's quarters at Muttanga and guards' quarters at Pavagaddai and Trichileri were not constructed for want of funds. Edathorai reserve was not demarcated as the establishment was engaged on other works. *South Malabar*—A drag road in New Amampalam reserve, Neelikal bridlepath, two guards' quarters and the demarcation of the Silent Valley reserve were deferred for want of funds. The construction of a standing camp for the Forest College was abandoned. *The Nilgiris*—Two bridlepaths were not constructed as the preparation of estimates was delayed. Sandalwood block near Kunjapanai was not thinned, there being "no demand for the materials to be extracted" (not a very sound reason). *Kollegal*—Elephant-capturing operations were not undertaken, a suitable locality not having been found. Lingamankarai road was not completed pending settlement of the question of acquiring patta lands. Hanur-Cowdalli road was cut out as unnecessary. New range offices at Hanur, Bailur and Ponnachi and subordinates' quarters at Mattipuram were not constructed pending orders about the revision of establishments. Stone walling in Chickailur reserve was not carried out as the demarcation of the same was not completed. *North Coimbatore*—Three small timber and one fuel coupes were not exploited for want of demand. The extension of the Hassanur-Hulikere road, tracing and estimating for two bridlepaths, a well at Kempanayakanpalaiyam and the demarcation of three enclosures in Gutialattur reserve were not taken up for want of establishment and funds. *Central Coimbatore*—Improvement fellings in Tadagam and Mettupalaiyam forests were not carried out as the working plans were not sanctioned. Some of the fuel and bamboo coupes prescribed for the year were not exploited either for want of demand or the felling in previous coupes was in arrears. Two bridlepaths in the Attapadi range were not constructed owing to the incompetency of a Ranger; subordinates' lines at Kalladikode and guard's shed at Tudiki were given up in favour of the incomplete buildings in the Attapadi valley. The site for one building sanctioned in 1914 has not yet been fixed by the District Forest Officer. The inspection shed at Shottaiyur was deferred as the Ranger could not supervise its construction and the Range Clerks' quarters at Iruttupallam for want of funds. *South Coimbatore*—Felling in coupe XXIII of the Tekadi leased forests was stopped owing to the large stock of the timber still remaining in the forest. Timber was not taken from the forests. Pollachi which is now the rail head and where there is a large depot. The Varigali valley road was not proceeded with pending further investigation. The Mount Stuart ghat road was not commenced as the estimates were not sanctioned. The Tekadi tram line was not begun as investigation was incomplete. The proposal to construct a standing camp for the Forest College was abandoned. Some of the quarters for subordinates were not constructed for want of funds, others were given up in favour of more urgent works and some were found unnecessary. Besides finishing some of the incomplete works of last year, the chief works that were carried out though not provided for in the plan of operations were:—*South Malabar*—Construction of a bridlepath in the Silent Valley and of a kitchen to the rest-house at Poochipara. *Central Coimbatore*—The construction of a rest-house at Kunjapanai and clearing of lantana under regular schemes. *South Coimbatore*—Strengthening bridges in the Coimbatore-Pollachi and Pollachi-Sethumadai roads for a road train to pass over and the construction of a bridge over the Aliar river, eradication of lantana and prickly-pear in Punachi and Udumalpet ranges, respectively, the construction of an elephant kraal at Lower Punachi and clearing of a portion of the area in the township on the Anamalais.

2. COMMUNICATIONS AND BUILDINGS.

30. The total expenditure on new works amounted to Rs. 28,611 and on repairs Rs. 33,038 as compared with Rs. 27,998 and Rs. 38,647 respectively in the previous year.

(a) Roads and Bridges.

The important works of a permanent nature executed during the year were:—*Ganjam*—The Oserobondho-Pondakhol boundary road and the Tarnangi-Kakulake road were completed. *Kistna*—The Yerrakuruva Hill road was partly completed.

Kurnool East—A ghat road from Chintala to Tummalabailu, a ghat bridlepath from Devalude to Telugurayanicheruvu, a rough cart-track from Gudemcherla to Landapaya, a ghat cart-track over Lingamayyakuruvu, a bridlepath over Dandakuruvu and a birdlepath from Benjamin's view to district boundary. *Kurnool West*—Fifty miles of cart-tracks along existing lines, a cart-track from Munimaduguleru to Peecheruvu six miles long, and a road trace seven miles for the proposed Rudracode-Nallakalva road.

31. The outlay on communications and buildings is compared below:—

	1914-15.	1915-16.
	Rs.	Rs.
Roads and bridges	15,670	13,151
Buildings	33,510	22,461
Other works	2,675	866

The decrease in expenditure under all heads is due to the postponement of works on account of financial stress.

(a) Roads and Bridges.

The chief works of the year are —

In *Bellary*, repairs to the bridlepaths in Sandur leased forests. In *Anantapur*, repairs to Bukkapatnam-Siddarampuram and Bukkapatnam-Amagondapaliem roads were completed. In *West Cuddapah*, repairs to Korthimadugu road were completed while a new road from Neelapuram to Dasaripalle was in progress. In *East Cuddapah*, the construction of bridlepaths from Thummalabyly to Kodur range boundary, and Kondur to Harlabylu and from Rollabodu to Jothi and the conversion of Kangamadugu bridlepath into a cart-track were completed whilst the conversion of Vathalur-Thummalabyly track into a road and its extension to Rajampet Railway station as also the construction of a road from Balapalli to Kangamadugu and repairs to Mogalipenta-Balapalli road were in progress. In *Nellore*, progress was made in the construction of a bridlepath along the foot of the Veligondas in Rapur, Udayagiri and Kanigiri ranges and the road from Udayagiri to Bandeganipalli and that from Venkatapuram to Boggutla valley were nearing completion. In *Chingleput*, Allikuli-Ramanjeri road was extended to a distance of 40 chains. In *Chittoor*, the cart-track from Mamandur to Pulutla was completed.

Tramways.—In *Nellore*, the laying of tram lines in connection with the transport of fuel was carried out as usual. At Sriharikota, 1,518 tons of fuel were trammed against 609 tons in the previous year. In the coast casuarina plantation of Nellore range 927 tons of fuel were transported. The tram lines and trucks which are the property of Government are lent to fuel contractors on certain conditions for the removal of their stock.

(a) Roads and Bridges.

32. The total expenditure on new works amounted to Rs. 5,371 and on repairs to Rs. 14,997 as compared with Rs. 6,233 and Rs. 23,680 in the previous year. This reduction in expenditure was purposely effected. In *South Vellore* 1½ miles of road from Komattiyur to Patrakad and about 2½ miles of inspection path around the Kottur specially protected block were constructed.

A substantial culvert on the Kambugudi Ghat road was also built at its 9th mile. But by far the most important work was done by the Special Forest Engineer who completed 14 miles of alignment for the Alangayam-Komattiyur road and prepared an estimate of Rs. 1,11,400 for construction. The alignment of the Nadanur-Amerdi road was commenced. *South Arcot*—A bridlepath of 4 miles in length from Thuthipatti to Turinjikadu was constructed at a cost of Rs. 293. *North Salem*—The chief work was the repair of 93 miles of road at a cost of Rs. 1,502. *South Salem*—The chief works were 5 miles of road from Panamarathupatti to Malayalapatti and 2½ miles of the Chinnakuppam-Karkanpatti road. Fifty one miles of roads and bridlepaths were repaired at a cost of Rs. 952. *Trichinopoly*—One hundred and eight miles of roads and bridlepaths were repaired at a cost of Rs. 2,739. *Madura*—One hundred and six miles of existing roads were maintained at a cost of Rs. 5,488. In addition to these, 17 Local Fund roads were maintained from funds provided by the District and Taluk boards. In *Tinnevely* no new works were carried out.

Western
Circle.

33. The expenditure on new works amounted to Rs. 17,175 and on repairs to Rs. 25,675 as compared with Rs. 25,155 and Rs. 22,148, respectively, in the previous year. *Important new works of the year.*—*South Canara*—The construction of Kelohar-bridlepath. *North Malabar*—The continuation of Brahmagiri-Ampalapara-bridlepath for 5½ miles and construction of bridges on the Kottiyur road. *South Malabar*—The construction of 10½ miles of bridlepaths and 4 miles of cart roads. *The Nilgiris*—The completion of the Mudumalai-Doddakatti bridlepath, the continuation of the Mudumalai-Torapalli road and the commencement of roads in Bleakhouse and Coonoor peak reserved forests. *North Coimbatore*—The completion of four miles of ghat roads at a cost of Rs. 4,479 and *South Coimbatore*—The construction of Attakatti-Aliar road.

Tramways.—An extension of 14 furlongs to the tramline in the Tekadi leased forests was completed. The tramming was done mostly by Government bullocks. The working of the year showed a net profit of Rs. 1,441 against Rs. 2,416 in the previous year. The outturn of work during the year decreased from 4,328 to 3,691 ton-miles and the working charges rose from Rs. 1-9-9 to Rs. 1-13-7 per ton-mile; the increased rate was due to the purchase of fresh materials and to the stoppage of tramming work for some time owing to an outbreak of anthrax.

The work of the Temporary Forest Engineer.—The Engineer and his staff were under the control of the Public Works Department until the end of March 1916; since then the control was vested in the Forest Department. The work of the Engineer Mr. A. J. Bright was found unsatisfactory and his services were terminated after the close of the year. He revised the estimates for the new Mount Stuart ghat road and the estimates were pending sanction. He was also engaged in investigating a trace for a tramline in the Tekadi leased forests but made no substantial progress.

(b) Buildings.

Northern
Circle.

34. *Ganjām.*—The construction of subordinate's sheds at Purnapani, Hattiguda, Kullada and Kesarapalli; huts for Foresters and Forest guards at Jogudi, Deputy Ranger's quarters at Chahali and a wooden rest-house at Osorobondho. *Gōdāvari Lower*—Part construction of rest-house at Veerabhadrapuram, completion of range quarters at Jangareddigudem and combined quarters at Urrinka and two sheds at Jangareddigudem for subordinates. *Kistna*—Re-construction of the stables attached to Kondapalle bungalow. *Kurnool East*—Construction of inspection houses at Garapenta and Burugundala and conversion of the depot buildings at Ganjivaripalli and the village chavadi at Pullalacheruvu into an inspection house and Deputy Ranger's quarters respectively. *Kurnool South*—Completion of the quarters for Deputy Rangers at Isukagundam, construction of a patrol rest-shed at Medimakulapenta, part construction of sheds at Ulla and Mamidimanichelama, and the starting of the construction of rest-houses at Aleabad and Isukagundam. *Kurnool West*—The construction of two sheds for patrols at Chakralamadugu and Hatikeswaram and of a compound wall for the Ranger's quarters at Ernipad.

Central
Circle.

35. In *Bellary*, the repairs to Glenview bungalow were completed. In *Anantapur*, the stable and kitchen attached to the Madakasira Range Officer's quarters, the kitchen attached to the forest bungalow at Kurli and the compound wall round the bungalow at Cherlopalli and repairs to forest bungalow and the range offices at Tadpatri and Kalyandrug were completed while the repairs to forest guard's shed at Guttūr, forest bungalows at Tozarakunta and Rallahalli were in progress. In *Guntūr*, only repair works were done. In *West Cuddapah*, the construction of combined Range office and quarters at Onipenta was in progress. In *East Cuddapah*, Forest Range office at Kodur, subordinates' quarters at Rollahodu, Gollapalli, Bhakarapet and Kodivengammabhavi were completed while the construction of a Range office and quarters at Porumamilla and rest-houses at Mallapalli and Joti and subordinates' quarters at Papanasanam were in progress. In *Nellore*, the construction of Ranger's and range clerk's quarters at Dachur and rest-house with out-houses at Boggutla valley were completed while the construction of a rest-house at Vedulla-cheruvu and the compound wall around the range buildings at Dachur were in progress. In *Chingleput*, the construction of a rest-house with out-houses at Allikuli was completed. In *Chittoor*, the reconstruction of out-houses at Mamandur and repairs to several bungalows were completed.

36. During the year the total expenditure on new buildings and on repairs amounted to Rs. 23,075 and Rs. 15,005 respectively against Rs. 32,477 and Rs. 11,100 in the previous year. The new works were:—*North Vellore*—The construction of subordinates' quarters at Kuppam, Chargal and Kannikulam. *South Vellore*—Construction of a sandalwood chipping shed at Vellore, and the completion of the rest-house at Patrakad. The construction of a range office at Tiruppattur neared completion. A range office at Santhavasal and a rest-house at Kuttathur were begun. *South Arcot*—Completion of the rest-house and stable at Pavanjipattu. *North Salem*—Very little progress was made and the ranger's quarters at Kadayampatti are not yet complete. *South Salem*—Completion of range offices at Attur and Harur. The rest-house at Cauvery peak and subordinates' quarters at Achankuttapatty were also completed. *Trichinopoly*—Part construction of subordinates' quarters at Puliansholai. *Madura*—Completion of Vannathiparai and Marian Sholai rest-houses. Subordinates' lines at Guruvanuthu were also completed. *Tinnevely*—Completion of subordinates' quarters at Puliangudi, Kodamadi and Peechiamankoil and part construction of quarters at Nambiar.

Western
Circle.

37. The amount spent under this head was Rs. 44,795 against Rs. 41,466 in the previous year; of the former a sum of Rs. 32,899 was spent on new works and the balance on repairs. Rupees 30,799 and Rs. 10,667 respectively are the previous year's figures. The following were the principal items of new works:—*Rest-houses*—One each in *North* and *Central Coimbatore* and two in *South Canara* were completed, one in *South Canara* and two in *Central Coimbatore* commenced and two in *North Coimbatore* in progress. The serambi at Teppakadu in the *Nilgiris* was dismantled and set up at Kargudi. The range office at Kanath in *North Malabar* was commenced. *Range quarters, etc.*—One in *South Canara* was commenced and one each in *North* and *South Malabar* were in progress. The quarters for the Assistant Veterinary Inspector in *South Coimbatore* were completed. *Deputy Ranger's quarters* at Hoigundi in *Mangalore North* were constructed. *Subordinates' lines*—One set each in *South Malabar* and *Kollegal* were constructed. Two in *North Coimbatore* and one in *South Coimbatore* were completed. One in the *Nilgiris* was commenced and two in *North Coimbatore* were in progress. *Other buildings*—One inspection shed in *Mangalore North* was commenced. Construction of kitchen to Poochiparai bungalow in *South Malabar* and of stables and out-houses at Kargudi in the *Nilgiris*.

(c) Miscellaneous Works.

38. The chief works carried out were the repairs of tanks, sinking of new and repairs of old wells, clearing of springs and digging and widening channels. Bunding of various streams in the Nallamalais of *Kurnool West* was also undertaken.

Northern
Circle.

39. The most important works were the repair or deepening and digging of wells and improvement of water-sources in the grazing blocks. Seven new wells were sunk and 16 old wells repaired at a cost of Rs. 866. Rupees 816 were spent in improvement of water-supply in *Nellore* district. During the year sanction was accorded to the District Forest Officer, *Guntūr*, for the purchase of an Abyssinian tube well for use in the coast forests of the Repalle taluk.

Central
Circle.

40. Five new wells were sunk and 31 old wells repaired or deepened.

Southern
Circle.

41. The total expenditure incurred was Rs. 4,464 against Rs. 8,181 in the previous year. The decrease was due to the stoppage of the river training works in *North Malabar* as the results of the previous expenditure were not satisfactory and to a large expenditure in the previous year in *Kollegal* and *North Coimbatore* on sinking wells and repairs to tanks. The chief works carried out during the year were sinking three wells in *South Canara* of which one was completed, two in *Kollegal* of which one was abandoned and six in *North Coimbatore* of which five were in progress, improvement of the floating channel from Nilambur to Karimpoya bridge in *South Malabar* and fencing the buildings at Kargudi in the *Nilgiris*.

Western
Circle.

Telephone.—The telephone service in *South Coimbatore* is reported to be working satisfactorily though there were occasional interruptions, these were not so frequent as in the previous year.

3. PROTECTION OF FORESTS.

(a) General Protection.

Northern
Circle.

42. The following statement shows the number and classification of forest offences brought to light during the year :—

Class.	Injury to forests by fire.		Unauthorised felling or appropriation of wood and minor forest produce.		Grazing without permission or in forest in which grazing is prohibited.		Other offences.		Total.	
	1914-15.		1915-16.		1914-15.		1915-16.		1914-15.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
Cases taken into court ..	8	10	462	471	194	148	68	52	727	681
Cases compounded ..	5	10	1,812	1,977	706	612	132	132	2,665	2,781
Cases undetected ..	289	216	183	206	34	21	8	..	509	443
Total ..	302	236	2,457	2,654	934	781	108	184	3,891	3,865

There has been a slight fall in the total number of offences reported and a general fall under all kinds of offences except under "Unauthorised felling, etc." The increase under this head is attributed to the greater vigilance displayed by the patrols in detection. The District Forest Officer, Vizagapatam, complained against the lenient punishments inflicted by Magistrates, but the Collector remarked that he and his predecessor agreed that no interference was necessary. The Collector of Kurnool considers that more care is required as to the manner in which cases are sent up to court, and that Deputy Rangers and even Rangers often betray a lack of elementary knowledge as to law and procedure and as to what constitutes legal evidence. He suggests that some elementary instruction on these subjects should be given to Rangers and Deputy Rangers. At the Madras Forest College, I believe that considerable attention is paid to this point and that students are taken to watch the hearing of forest cases. The Ranger himself should endeavour to improve the knowledge of those of his Deputy Rangers who have not been trained at the Madras Forest College.

43. There were 554 cases pending at the beginning and 446 at the end of the year. Of these latter, 121 were with Magistrates. Out of the cases brought to trial during the year 722 ended in conviction and 64 in acquittal against 758 and 88 respectively in the previous year, the percentage of failure was 8.14 against 10.40 in the previous year.

Closure of forests to grazing for not reporting or preventing illicit grazing or other offences on a large scale.

44. In Vizagapatam the privilege of free grazing of 200 head of cattle of Kondasanthavillagers was suspended during the whole year owing to their indifference in rendering help with reference to fires in Sinivaram reserve. In Godavari Lower free grazing was refused from April to the end of September 1916 to the villagers of Sivaramapatnam as they failed to render assistance in putting out a fire in Molleru reserve. In Kurnool West several offending villages were warned of closure to grazing for similar reasons.

45. Two thousand four hundred and sixty-seven cases were compounded for Rs. 25,416 against 2,320 cases for Rs. 24,310 in the previous year.

46. A few rewards were given for assistance in the detection of forest offences and for general protection, apart from the special sum distributed in Upper Godavari and Kurnool out of the Circle Fire Protection allotment.

47. The following statement shows the number and classification of forest offences compared with the previous year :—

Central
Circle.

Class.	Injury to forests by fire.		Unauthorised felling or appropriation of wood and minor forest produce.		Grazing without permission or in tracts in which grazing is prohibited.		Other offences.		Total.	
	1914-15.		1915-16.		1914-15.		1915-16.		1914-15.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
Cases taken into Court ..	2	20	1,251	1,082	897	1,086	121	98	2,271	2,286
Cases compounded ..	3	5	4,440	3,813	3,335	2,837	209	149	7,987	6,804
Cases undetected ..	123	307	266	153	297	423	2	1	688	884
Total ..	128	332	5,957	5,048	4,529	4,346	332	248	10,946	9,974

There was a fall under all heads except injury to forests by fire which was chiefly in Anantapur and Chittoor due to incendiarism in both districts. The decrease in the total number of forest offences during the year occurs chiefly under "illicit felling" a less number of cases having been reported in all districts excepting Bellary and Anantapur.

The percentage of acquittal of cases taken to court was 10 against 9.66 in the previous year.

Six thousand six hundred and fifty-seven cases were compounded for Rs. 76,943 while 7,208 cases were compounded for Rs. 76,379 in the previous year.

The number of cases compounded was less than in the previous year but the amount of compounding fees was greater due to levy of deterrent fees in grave cases notably so in Bellary.

The punishments awarded by Magistrates are reported to have been generally adequate.

Rewards were granted in all districts except Bellary, for successful detection chiefly of illicit grazing and browsing offences and they amounted only to Rs. 527.

48. The rules for the guidance of Forest Officers in compounding Forest Offences were observed generally throughout the circle. During the year G.O. No. 1673, Revenue, dated 17th July 1915, was received prohibiting District Forest Officers' passing orders to confiscate the seized property when compounding an offence.

49. The following statement shows the number of offences of the year compared with the previous year :—

Southern
Circle.

Class.	Injury to forest by fire.		Unauthorised felling or appropriation of wood and minor forest produce.		Grazing without permission or in tracts in which grazing is prohibited.		Other offences.		Total cases.	
	1914-15.		1915-16.		1914-15.		1915-16.		1914-15.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
Cases taken into court ..	6	21	1,936	3,070	778	676	130	165	2,950	3,872
Cases compounded ..	..	4	7,919	6,912	2,597	1,703	513	213	11,029	8,831
Cases undetected ..	243	630	236	120	75	43	37	..	532	793
Total ..	249	655	10,091	10,102	3,391	2,421	680	318	14,411	13,496

Out of 13,496 cases no less than 3,740 referred to unreserves and out of 10,102 cases of unauthorised felling 6,451 relate to reserves and 3,651 to unreserves. There was a marked decrease under grazing cases which is especially noticeable in South Arcot. In this district which holds a bad reputation in respect of forest crime the number of cases in reserves dropped from 1,959 to 1,441 but in unreserves increased from 848 to 1,583. The increase in unreserved cases is attributed to the addition of Tanjore range but the striking drop in reserved forest cases, in spite of this addition has not received proper comment in the district report.

There is a very large decrease of cases in the Trichinopoly district, the total number having dropped from 2,573 to 1,422.

The fall is most marked in the unreserves where the cases are less than half of those of last year.

The increase in the number of cases brought to trial is due in North Vellore to the Magistrate taking cognizance of every forest offence reported to him and issuing process before composition fees are paid, in Madura to some Magistrates habitually inflicting fines lower than the compounding fees and in North Salem to a great majority of cases ordered to be compounded having been taken to court for non-payment of compounding fees.

Cases brought to trial.

Year.	Convictions.	Acquittals.	Percentage of failures.
1914-15	2,712	153	5.50
1915-16	3,948	210	5.05

Cases compounded.

Year.	Number of cases.	Amount.
1914-15	9,657	Rs. 84,782
1915-16	7,898	56,054

In fixing the amount of compensation, attention was generally paid to the orders contained in G.O. No. 1990, dated 13th June 1910.

50. In *South Vellore* a case of theft of sandalwood from the Belur unreserve ended in the sentence of four months' imprisonment. In *South Salem* organized thefts of sandalwood from the Attur Periakalrayans were stated to have been started by a Chetti of South Arcot with the help of the local Malayalis. There were no less than fifteen cases detected which seems to show a regrettable recrudescence of this form of theft.

51. The reward system was sparingly used only Rs. 59 being distributed partly in *South Vellore* and partly in *North Salem*.

52. The offences detected during the year are classified and compared with those of the previous year in the following statement:—

Class.	Injury to forest by fire.		Unauthorized felling or appropriation of wood and minor forest produce.		Grazing without permission or in tract in which grazing is prohibited.		Other offences.		Total cases.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
Cases taken into court ..	11	41	420	410	152	142	75	86	658	679
Cases compounded ..	54	25	1,694	1,699	474	483	238	167	2,454	2,372
Cases undetected ..	133	156	31	26	15	18	2	8	181	207
Total ..	198	222	2,144	2,134	641	643	315	261	3,293	3,258

NOTE.—The Revenue Divisional Officers in Central Coimbatore have not furnished particulars of the offences dealt with by them.

The total number of offences increased by about 8 per cent. The main increase was under "injury by fire" and was chiefly due to incendiarism mostly in *North Salem* and *Central Coimbatore* and also to some extent to the exceptionally dry season. There was as a decrease of 16 per cent under "other offences" which was mostly in the *Mangalore* divisions and has not been explained. The variations under the other heads are small and call for no special remarks.

Of the cases disposed of by the courts, about 90 per cent resulted in convictions which was one per cent less than that in the previous year. The number of cases withdrawn after being taken to court increased from one to fourteen; the increase

was in *Central Coimbatore* and has not been explained. The punishments inflicted by Magistrates are reported to have been inadequate in some instances in *South Canara* and *North Coimbatore*, in the latter division fuel thefts appear to be increasing; in the *Nilgiris* a lenient view was taken in a few cases of incendiarism, the offenders being let off with fines of a few rupees. Elsewhere the punishment inflicted appears as a rule to have suited the crime.

Compounded offences.—The number of cases compounded and the amount of fees realized were 2,341 and Rs. 24,400, respectively, against 2,041 and Rs. 23,488 in the previous year. The last year's figures include the offences in unreserved lands in *Central Coimbatore*. There was a decrease in the amount of fees realized in *South Mangalore* and *South Coimbatore* while the number of compounded offences increased; the decrease in the former division is attributed to the smaller fees levied in petty cases and in the latter to there being no cases involving valuable seizures. The rules for compounding grazing offences were followed in all districts and worked satisfactorily.

Undetected offences.—It is observed that these are almost entirely cases of incendiarism due presumably to the fact that reports are insisted on wherever a fire occurs and the figure given is the total of the fire occurrence reports received after deducting fires caused in fire tracing. In the case of petty thefts noticed on patrol no such reports are made and consequently the number of undetected cases is low. I do not think any useful object would be served by tabulating such illicit removals.

Holding adjacent villagers responsible for commission of offences in particular forests.—Notices warning the villagers of their responsibility and of the punitive measures for commission of offences in the adjoining forests were published in *South Canara* and the four divisions of *Coimbatore*. No action was taken in the *Nilgiris* as the system was not workable and in *Malabar* where the number of offences were very few. Consequent on the occurrence of a large number of fires and of illicit fellings in the Bolampatti forests in *Central Coimbatore*, two blocks covering about 36 square miles were closed to grazing for three months. The grazing fees in *North Coimbatore* were doubled for 1916-17 as the result of incendiarism. In *South Coimbatore*, a monigar was suspended for three months for his failure to render assistance to the department.

53. *Rewards*—*South Canara*.—A Ranger was granted a reward of Rs. 60 for having worked up successfully a case of sandalwood theft. One Land Records Inspector and a village Pottail were rewarded Rs. 15 and 5, respectively, for detection of offences. The *Nilgiris*.—Rewards amounting to Rs. 8 were granted to forest subordinates for detecting cases of fishing and illicit grazing. *North Coimbatore*.—Rs. 135 were granted to 26 persons in 14 cases of illicit felling, grazing and shooting. *Central Coimbatore*.—Rewards amounting to Rs. 79 were granted to the forest subordinates for their energy and promptitude in four offences. *South Coimbatore*.—Rs. 5 to a guard in connection with a case of illicit removal of timber and Rs. 10 to two coolies for detecting a case of setting fire to forests.

(b) *Protection from Fire.*

54. The areas attempted and protected are given in Form No. 72. The system of having boundary and fire lines cleared by purchasers of material thereon, which was followed with success in Chelama and Sirvel ranges of *Kurnool South*, was extended to Giddalore range of that division; but it proved a failure in *Kurnool West* in the attempt to have the 100 feet wide fire line cut along the Mantrala-kanama ghat road by contractors owing to inaccessibility of the line. To Mr. Thompson must be given the credit of having introduced the system of selling the right to cut his lines. Some of his lines which would have cost large sums for felling have sold for Rs. 300 per mile. In *Tanjām*, the reserves have been classified under "rigidly protected," "partially protected" and "unprotected areas" with regard to the barriers existing against fires approaching the areas; fire tracing in this division was delayed owing to late rains; clearing of lines was commenced on 15th December 1915 and burning of grass on guide lines was not commenced till the end of January 1916 owing to the greenness of the grass; the burning of frontier lines along the Agency Maliahs in Russellkonda and Mojjagoda ranges was

not completed till about the middle of March 1916; this was due to some extent to the indifference of the range staff; consequently several fires occurred two of which alone burnt 16,789 acres of partially protected forests. In Pondakhol reserve which is under rigid fire protection there was one fire which crossed from the adjoining saindari forests burnt 600 acres; another fire in the sal massifs and coupes which were also under rigid protection burnt 234 acres; some of these fires were started by Khonds for shikar and podu purposes; the fires that came from the frontiers could not be checked as the places were not easily accessible; in future for such places Khonds will be appointed as fire patrols and grass and regrowth on all lines removed entirely to enable fire tracing to be completed in January. The general result of fire protection in this division is satisfactory considering the percentage of areas burnt in the "rigidly protected," "partially protected" and "unprotected" areas which are 98, 10.00 and 88 respectively. The season was unfavourable. In Vizagapalam 3,045 acres in the specially protected area of Dbarakonda reserve was burnt partly through slackness of subordinates and partly through the apathy of the villagers of the adjoining mutta; these villagers were warned that a repetition would entail the withdrawal of their privileges. The present District Forest Officer during the year put down the former practice of annually charging a fixed and by no means inconsiderable sum for "clearing" lines that are bare throughout the year. The general result may be considered fairly satisfactory although over 42 per cent of the "generally" protected areas which had no special protective measures of any kind were burnt; whereas in the specially protected areas with fire lines and fire patrols the percentage burnt was 0.26. In Gōdāvari Upper the system of lump-sum payment for line clearing combined with proportionate rewards for successful protection was continued, but a larger area was burnt during the year than in the previous year. The District Forest Officer considers that it is partly due to deliberate incendiarism by one or two hostile *patels* in Marrigudem range; the Collector intends paying personal attention to this matter. Fire was excluded from 75 per cent of the area attempted to be protected against 88 per cent in the previous year. The result is fairly satisfactory. In Gōdāvari Lower the services of hillmen were as usual utilised and the protection was apparently very satisfactory, being 97 per cent. In Kistna out of 47,612 acres attempted 44,688 acres were protected in spite of the severe hot weather and want of timely rains, and the result may be considered very satisfactory. The season throughout Kurnool was undoubtedly unfavourable. In Kurnool East 54 per cent against 90 per cent in the previous year was protected, the season was very dry and the Collector and the District Forest Officer are of opinion that the Pecheruvu Chenchus have fired the forests out of spite because they were prevented by the police from collecting their customary tolls from pilgrims to Sriselam; these pilgrims also appear to have caused accidental fires. One such pilgrim was detected and the case against him compounded. The fire protection in this division cannot be considered successful. In Kurnool South owing to heavy and late rains fire tracing had to be continued till the end of February 1916; protection was not as good as in the previous year; there were bad fires in Chelama and Gundlakamma ranges owing to want of control over fires on the part of new subordinates, to injudicious counterfiring and in the case of Chelama to an incompetent and lethargic acting Range officer; in the Sirvel range the protection was very good being 43,704 acres against 7,779 acres successfully protected during the previous year; the new lines in this range are getting yearly less covered with regrowth. Twenty-seven protection measures were burnt during the year. The general result cannot be considered satisfactory especially in the important ranges of Chelama and Gundlakamma. In Kurnool West the number of fires was less but the area burnt more than in the previous year; one very big fire which burnt 32,000 acres in the specially protected block of Nandyal range is strongly believed to be the work of some timber thieves of Narayanapuram and other villages; this fire was started simultaneously at several places and no assistance was rendered by the villagers for extinguishing them; Chenchus on the other hand distinguished themselves by working hard to put them out; there were some fires in the neighbourhood of Nagaluti and Pecheruvu gudams where also the stoppage of the collection of metta fees (tolls) from pilgrims to Sriselam is reported to have enraged the Chenchus to incendiarism; as, at present, the promise of reward for protection alone is not sufficient to deter Chenchus from their

customary firing, it is proposed to grant future rewards for regular work throughout the year which will include helping to put out fires and failure to do so will entail forfeiture of rewards otherwise earned by regular work. The percentage of areas burnt in the "specially protected" and "generally protected" areas is 28.96 and 10.20 respectively. Like Kurnool South the result cannot be considered satisfactory.

55. *General*.—A sum of Rs. 57,412 was spent during the year on fire protection. The area dealt with was 1,608 against 4,147 square miles in the previous year. Three thousand nine hundred and twenty-seven square miles were successfully protected against 4,094 square miles in the previous year; the proportion of failure rose to 14.77 from 7.94 in the previous year; the cost per square mile successfully protected fell to Rs. 14-10-0 from Rs. 15-15-1 in the previous year; the fall is due chiefly to cheaper protection in Kurnool South where the new lines are getting yearly less covered with regrowth. I am convinced that fire protection would be far more successful if no lines were burnt after February 15th at the latest (all work of this nature if incompleting being stopped then or even before this date if the forests are very inflammable) and if no counterfiring were permitted except in the presence of a trained Ranger. I am of opinion that wherever feasible lines should be cut in November, burnt in December and re-burnt in January.

The ideal is to get bare lines and to attain this object it is worth while spending a considerable sum, which should be debited to capital.

Appendix A shows the number and origin of fires.

56. The area of forest tracts protected is shown in Form No. 72. There was no change in the system of fire protection. Central Circle.

The area under special fire protection during the year was 2,221 square miles against 1,835 of the previous year and the area burnt was 349 square miles compared to 121 square miles.

In Bellary, the Sandur leased forest, plantation in Adoni range and the felled coupes were protected, but there were three large fires in Sandur range one of which burnt the whole of Donimalai block. In Bandri reserve 6,311 acres were burnt. In Anantapur, the fire protection in Bukkapatnam range was specially bad on account of the Ranger in charge (since dismissed) not taking any interest in his work. In Guntur, there were some small fires said to be due to the introduction of enhanced grazing fees and closure of forests to grazing. In West Cuddapah, the decrease in area burnt was due to fire tracing of inter-divisional and exterior fire lines and closer scrutiny of fire protection operations. In East Cuddapah, the fall in the area protected is due to increased wilful incendiarism. In Nellore, the increased area burnt was due to unfavourable year. In Chingleput, for all felled areas, coupe and compartment lines were cleared while special patrols were employed for specially protected areas, viz., Kambakkam and Nagalapuram reserves. In Chittoor, the year was unfavourable and there were serious fires in Chamala, Nagapatla-Tirupati extension, Horsleykonda and Naikaneri reserves, and the villagers were warned by the District Forest Officer during his enquiry.

The origin of fires is given in Appendix A.

57. *Special protection*.—There was no change in the system of protection during the year. The area attempted to be protected was 1,157 square miles against 1,023 square miles in the previous year. The increase is partly in Madura (83 square miles) and partly in Trichinopoly where 103 square miles have been hitherto wrongly classified as general protection. In South Arcot and Trichinopoly the area burnt is very small which may probably be attributed to the very heavy grazing incidence. In all other districts except Tinnevely the fire season was a bad one. In South Vellore the area successfully protected dropped from 99.7 to 86.2 per cent and in North Salem the area burnt was nearly 14,000 acres as compared with 5,000 acres in the previous year. The area burnt during the year was 90.40 square miles against 18.31 square miles in the previous year. The percentage of area successfully protected during the year is 91.37 against 98.2 per cent in the previous year. The cost per square mile of successfully protected area fell from Rs. 18-15-4 to Rs. 16-2-2. Southern Circle.

58. *General protection* was attempted over 3,144 square miles against 3,137 square miles in the previous year. The percentage of failure rose from 0.4 per cent to 2.4 per cent during the year.

59. The number and origin of fires are given in Appendix A. There were 697 fires burning 117,299 acres against 258 fires burning 20,715 acres in the previous year. There is no doubt that the great majority of the fires were due to incendiarism. Very few cases were actually detected.

Western
Circle.

60. *Special protection.*—The usual methods of fire protection were followed. The season was generally dry and unfavourable. The area attempted to be protected was 1,127 square miles, i.e., 26.5 per cent of the total forest area, having been decreased by 12 square miles. The decrease was in *Central Coimbatore* (21 square miles) partly counterbalanced by an increase in *Mangalore* divisions (7 square miles) and *South Coimbatore* (2 square miles), chiefly due to transfers from special to general protection and vice versa. The area burnt was 120 square miles, giving 89.3 per cent of success compared with 99.2 per cent in 1914-15 and 90.4 in 1913-14. All divisions except *Kollegal* show an increase of failure. 62.4 per cent of the total area burnt was in *North Coimbatore* where there was an epidemic of fires mostly lighted to obtain tender grass. In this division the forests in the Minchiguli valley, Geddesal and other areas containing *Dalbergia latifolia*, *Terminalia tomentosa* and *Pterocarpus Marsupium* are gradually being converted into stunted forests of inferior firehardy species, such as *Anogeissus latifolia* and *Kydia calycina*. About 12 square miles in the Mudumalai forests in the *Nilgiris* were burnt, while the failure in the previous year was 5½ acres. The privileges (free grazing and removal of produce for domestic purposes) allowed to the resident villagers in the forests were suspended for one year for their failure to render assistance in fire protection. In *South Coimbatore* the assistance of hill tribes was enlisted as usual for fire protection. They were granted a reward of Rs. 127 for the successful protection in one of the ranges during the fire season of 1914-15. The cost of protection per square mile of area attempted was Rs. 24-4-11, against Rs. 24-3-6 in the previous year.

61. *General protection.*—The area attempted to be protected was 2,498 square miles against 2,482 in the previous year and the percentage of failure rose from 1.4 to 16.1. Eighty-three per cent of the failure was in *North Coimbatore* for the reason mentioned under "special protection"; as the result of these fires, punitive measures have been taken as mentioned in paragraph 52 supra. It is believed that a point is made of burning the forests every second or third year to get young grass and kill the shrubs and thorny creepers.

62. The number and origin of fires during the year are given in Appendix A. The total number of fires was 563 against 208 in the previous year and the area burnt was considerably more, the average per fire having risen from 141 to 611 acres. *North Coimbatore* division was responsible for more than three quarters of the area burnt; the District Forest Officer knows personally most of the area burned. In some of the other districts the area is undoubtedly understated.

(c) Protection from Cattle.

Northern
Circle.

63. Out of 5,099 square miles of forests 1,289 square miles were closed to all animals throughout the year and 11 square miles for part of the year against 1,166 square miles for the whole year in 1914-15. Goats were completely excluded from all reserved forests with the exception of a small number admitted under Cheshu settlement rights.

64. Appendix B shows the number of cattle impounded compared with the average of the three years preceding.

Central
Circle.

65. The area closed and open to grazing is shown in Form No. 73. With the close of the year 1915-16, goats have been prohibited from entering the reserves except in portions of Kayar, Kolathur and Mambakkam, Chingleput district, used as artillery practice ground. The total number of animals grazed amounted to 1,214,480 which is less than last year; the decrease in all districts was chiefly due to enhancement of grazing fees for goats in *Bellary*, to the introduction of a grazing scheme for forests in *Guntur*, to handing over of certain reserves to panchayat management in most districts and to the closure of pentahs in the Palakondas of *West Cuddapah* district. The decrease in *North Malabar* was due to the introduction of a grazing scheme for forests in *Guntur*, to handing over of certain reserves to panchayat management in most districts and to the closure of pentahs in the Palakondas of *West Cuddapah* district.

To get rid of the nuisance of Sriharikota semi-wild cattle, the Government were pleased in their order No. 935, Revenue, dated 27th April 1916, to approve the proposal for the initial reservation of all the enclosures in the Sriharikota reserve for the extinction of all the rights in the reserve.

66. An analysis of the cattle impounded is given in Appendix B.

67. Eighty-two per cent of the total area of reserved forest was opened to grazing of cattle but closed against goats. The incidence of grazing in the several districts of the circle is given below:—

Southern
Circle.

District.	Number of cattle in cow units.	Area in acres.	Number of acres per cow unit.
North Vellore	97,233	267,637	2.75
South do.	143,533	432,189	3.01
Do. A reot	111,162	192,000	1.73
North Salem	135,917	470,448	3.46
South do.	103,951	334,720	3.22
Trichinopoly	128,350	153,920	1.61
Madura	82,600	362,980	4.39
Tinnevely	27,680	122,830	4.44
Total	830,486	2,876,702	2.86

The number of cattle grazed shows a reduction on last year but forests cannot be expected to improve until the incidence is much reduced.

68. An analysis of the cattle impounded during the year with the average of three years is given in Appendix B.

69. The proportion of forests open or closed to grazing was as follows:—

Western
Circle.

	1914-15.	1915-16.
	PER CENT.	PER CENT.
Closed to all animals for the whole year	14	13
Do. do. for part of the year	...	1
Do. sheep for the whole year	10	10
Opened to all animals except goats for the whole year	76	76

Goats are not allowed into the reserves. The decrease in the first of the above items was in *North Malabar* (18 square miles) due to a mistake in the figures furnished for the last year, in *North Coimbatore* (12 square miles) to the opening of a portion of the Minchiguli block and in *Central Coimbatore* 36 square miles were thrown open. The number of cattle impounded was 10,054 as compared with 9,333 in the previous year and 9,442, the average of three years. There was a marked increase in *North* and *South Coimbatore* due to better supervision and a decrease in *Central Coimbatore* to a larger number of cattle licensed for grazing.

(d) Protection against Injuries from Natural Causes.

70. *Ganjām.*—Defoliating caterpillars attacked sal but the trees resumed their foliage in a fortnight; wild elephants damaged sal regeneration in massifs in Chendragiri reserve, creeper cutting under a more methodical system was introduced. *Visagapalan.*—Caterpillars attacked a few palmyras in Chinnamangalapuram tope. The palmyras were felled and burnt in Peddakonda coupe; the bark of a number of standards was peeled off by sambhur. *Gōdāvarī Upper.*—Correspondence with the Forest Botanist, Dehra Dun, on the subject of identification of the Jacids referred to in last year's report is still in progress: the insect continued to damage teak and *Anogeissus latifolia* leaves in Nugur range; some other insects which have not yet been identified have been observed to bore through the sap and heartwood of *Xylia dalabriformis*.

Northern
Circle.

71. A gall insect is reported to have attacked the leaves of *Pongamia glabra* and *Prosopis spiciqera* in Adoni range of *Bellary* district. In *Guntur*, owing to hot winds some damage was caused to a few standing trees in casuarina plantations of Bapatla range. In *West* and *East Cuddapah* a caterpillar was observed defoliating *Pterocarpus santalinus* and *Anogeissus latifolia*, but the early rains in July minimised the damage done in *West Cuddapah* and a specimen of the caterpillar was sent to Dehra Dun for

Central
Circle.

identification by District Forest Officer, *East Guddapah*. In *Chingleput*, creepers and prickly-pear in Guindy Park were removed by subordinates and the lantana in it removed at a cost of Rs. 418. In *Chittoor*, lantana in Horsleykonda was eradicated to a small extent.

Southern Circle. 72. *Prickly-pear*.—Practically nothing has been done towards preventing the spread of this pest except in *South Salem* where a preliminary attempt at eradication has been made in five coupes.

Eradication has been ordered in certain places in the *Madura* working-plan.

Lantana.—It is regrettable that no further work of eradication is reported from *Tinnevely* where systematic work was begun last year.

Eradication has been prescribed in some of the sandal areas of *North Salem* in the new working-plan but it is evident that far more sustained attempts to remove this pest should be undertaken throughout this circle.

"*Spike*" disease.—Two new infected areas were discovered in *North Salem* and one in *Perambalur* of *Trichinopoly*. There is no doubt that the disease is spreading gradually and at present no successful method of combating the disease has been discovered. There is no spike in *Tinnevely*.

The researches of Dr. Coleman of Mysore have however gone some distance in solving this difficult problem. Some new facts concerning the disease were discovered in the course of the Conservator's tour in the Kollimalai Hills of *Trichinopoly*.

Mr. T. N. Hearsey has been employed on special duty in *North Salem* to investigate the disease. He has made some interesting discoveries in connexion with insects which appear to be producing phyllody not only in sandal but in many other species. It is noteworthy that the special bug which is suspected in *North Salem* was also found on a "spiked," sapling in *Perambalur*, more than 100 miles away. An early solution of the problem is hardly to be expected but the systematic investigation which is now being pursued is bound to improve our knowledge in connection with the disease.

Damage by sambhur.—Sambhur as usual continued to do a good deal of damage in *Tinnevely*.

Western Circle. 73. *Spike disease in sandal*.—*Kollegal* reports that the attempt to stop the spread of spike at Bailur by uprooting every sandal tree and plant and *Zizyphus acnophia* within 100 yards of the area infected with spike has proved a failure as the disease has crossed the line. The disease continues to spread both in *Kollegal* and *North Coimbatore*, new infection centres having been found near Hosahatti and Kodipuram. There has also been a serious recrudescence near Hassanur. Careful inspection with a lens of leaves and flowers which have recently died on spiked trees in wet weather often shows black sporophores with spores attached; whether these follow or cause spike the writer is unable to say; he thinks the first sign of spike is the death of individual inflorescences as a whole and their not falling normally, the flowers appear to drop one by one often before they are quite dead.

Lantana.—A start has been made at eradicating this pest especially in *South Coimbatore*, and *North* and *South Malabar*; *North* and *Central Coimbatore* and the *Nilgiris* have made a beginning. This pest is also prevalent in *Kollegal* and *Mangalore* *North* and *South* and will have to be attacked there too.

Prickly-pear.—The schemes referred to have been drawn up in several districts and a good deal of money has been spent in some cases, details however of the areas dealt with have not been reported.

Teak defoliators.—*Hyblaea puera*, *Varnigra* appears to have stripped about half of the Panengode (1886) and Chatamborai (1875) plantations and the whole of the 1874 Chatamborai one. Karimpoya (1902 to 1906) were almost completely stripped between March and June 1916 by *Pyrausta machaeralis* which also occurred in the Arevakode, Pokote and other plantations. No information is available as to whether any preventive or curative measures were undertaken.

Locusts.—Seven hundred and fifty-eight seers were collected in the Karimpoya teak plantations (1897 to 1900) in *South Malabar* at a cost of Rs. 52.

Beetle attacks following fire are reported to have killed a lot of *Shorea talura* in *North Coimbatore*.

4. SYLVICULTURE.

(a) Natural Reproduction.

74. In *Ganjām* it is reported that sal did not flower during the year—an unusual occurrence; it has begun to establish itself on suitable soil in unprotected areas. In *Vizagapatam* reproduction of sal in three reserves of Palaconda range was excellent; it has been observed coming up in patches of even aged advance growth, coppice reproduction in felled coupes was also satisfactory; reproduction of *Xylia dolabriformis* was particularly good wherever occurring, other important species such as *Chloroxylon swietenia* were reported to have been good in parts of Golugonda range. In *Gōdāvari Upper* natural reproduction of the main important species was good. In *Gōdāvari Lower* reproduction from seed was fairly satisfactory in all the ranges; coppice reproduction of *Pterocarpus marsupium* and *Xylia dolabriformis* was satisfactory; reproduction from rootsuckers of *Chloroxylon swietenia*, *Xylia dolabriformis*, etc., was very good. In *Kistna* reproduction from seed was satisfactory in Bezvada and Ellore ranges; coppice reproduction was good in all the ranges; Mangrove (*Avicennia officinalis*) reproduction was excellent in some reserves. In *Kurnool East* natural reproduction in specially protected areas was fairly good; in the bamboo cleared area near Maddipenta a dense crop of *Dalbergia latifolia* is springing up. In *Kurnool South* owing to very good rainfall of the previous two monsoons reproduction of the principal species was more or less good everywhere and as evidence of the protection of the previous eight or ten years seedlings and Fire coppice shoots are prevalent. In *Kurnool West* natural reproduction in the open areas of the Yerramalais was poor owing to excessive grazing; within the stonewalled areas however it was good especially of *Hardwickia binata*. Teak shows astonishing vitality and comes up year after year in spite of being burnt back repeatedly, an excellent example of which is reported to have been seen in Mettupalli reserve in Dhone range where teak-roots 7 or 8 inches in girth are common, while the aerial shoots reach only a height of a few inches. Natural reproduction in the Gundlabrahmeswaram range of the Nallamalais was good owing to successful protection from fire and grazing; it was moderate elsewhere.

I am inclined to think that what have been called teak rootsuckers are really fire-coppice shoots. It has been denied that there is any teak in the Railway Working Circle of the Nallamalais much over 40 years of age. I had a teak of about eleven inches diameter felled. The stool showed 73 rings plus one inch of core (i.e., fire-coppice period). Its age must be at least between 80 and 90 years. In this working circle there is no lack of teak of about the same girth and appearance.

In *Gōdāvari Lower* Division the question of the reproduction of one of the Mangroves by blind sucker-shoots is now under investigation.

75. In this connection there is not much of interest in the circle to report. Coppice reproduction in the felled coupes is reported to have been satisfactory, especially that of *Pterocarpus santalinus* in *Cuddapah* and *Chittoor* districts.

Sandalwood is reported to be rapidly spreading in the Palmaner range of *Chittoor* district. It is also found in Chamala and other reserves of the Tirupati range.

In *Guntūr* district the reserves are still subjected to heavy grazing and natural reproduction is therefore not satisfactory.

76. (1) *Sandal*.—The distribution of sandal in this circle is far larger than has hitherto been suspected. It occurs in every district in the circle. Somewhat sparsely in *North Vellore* (Palar and Amerdi plantations), *South Arcot* (outliers of the Kalrayans), *Madura* (Sirumalais) and *Tinnevely* (Srivilliputtur and Kuttalam). In the latter district it is extending round Mandanthorai. It is at its best in the Javadis of *South Vellore*, but there are large workable areas in *North Salem*, *South Salem* (Chitteris, Kalrayans, Pachamalais and Kollimalais with scattered trees in almost every other hill area, and in *Trichinopoly* (Pachamalais and Kollimalais). The natural regeneration of this species is excellent everywhere more especially in the Kottur block (Yelagiris of *South Vellore*) and Melpat (Javadis), the hills of *North Salem*, the Chitteris of *South Salem* and the Pachamalais of *Trichinopoly*.

Northern Circle.

Central Circle.

Southern Circle.

fistula, *Dalbergia latifolia*, *Xylia xylocarpa* and *Terminalia tomentosa* were put out on an area of 12 acres at a cost of Rs. 843. *Hopea* seed was obtained in June from Mangalore, South, and sown broadcast in Pokote, Panengode and in the nursery at the District Forest Office. In Mangalore, South, a some desultory sowing and planting has been done principally of *Hopea* and *Terminalia tomentosa*. In North Coimbatore and Kollegal a fairly large quantity of sandal seed was dibbled in. The results of the sowings mentioned last year *s. v.* Kollegal appear to have been a failure. It seems probable that the dibbling of sandal seed in these two districts which are overrun with "spike" is waste of money. Kollegal does not refer to the result of the *Acacia arabica* sowing in Dodda Induvadi reserve. Unnecessarily large quantities of seed are indented for by outside districts. I suggest that before indenting, some calculation should be made of the number of seeds to the pound, say for teak, *Pterocarpus Marsupium*, sandal and *Terminalia tomentosa* and that the indenting officer should state the area he wants to plant and that supplies be made accordingly.

(c) Operations for the improvement of growing stock.

Northern Circle.

82. *Creepers cutting*.—In Kurnool East near Peddachama and Chintalagudem the Chenchu women and boys were employed in cutting back creepers which interfered with the growth of better species, prickly-pear was removed in Chinaganipalli and Badvid extension reserves to free the palmyra seedlings. In Kurnool West bunding of streams in the working plan area of Gundlabrahmeswarain and creeper cutting in coupe VI were done; eight miles of stone walling in Yaperlapad and South Dhone reserves were also constructed.

Central Circle.

83. *Timber improvement fellings*.—In West Cuddapah, 1,167 acres of forests, in East Cuddapah 1,665 and in Chittoor 479 acres were felled over. *Coppice felling* was as usual carried out in all the districts of the circle for supply of firewood. *Fencing* of all felled coupes is reported to have been done in all districts. *Cutting of creepers and climbers* was carried out in West and East Cuddapah, Nellore and Chittoor. *Bunding of streams*—Old bunds were repaired in Bellary and new ones constructed on a small scale in Chittoor. *Stone-walling* was done in Anantapur, West and East Cuddapah and Chittoor.

Southern Circle.

84. The cutting of creepers on standards by the subordinates is carried out in most districts and coupes were fenced.

In the Javadis and Yelagiris of South Vellore some really useful work was done in the removal of creeper growth in the sandal areas. 12,207 acres were systematically dealt with in this way.

Similar work was done in the Chitteris of South Salem but the area treated has not been reported.

Similar operations are greatly needed in North Salem and in the Pachamalais and Kollimalais where the work carried out has been entrusted to subordinates and in consequence not properly carried out.

Creeper cutting was also carried out in the Ambasamudram range of Tinnevely to free the better Shola trees but the area operated upon has not been reported. Such work to be of real value ought to be carried out under a regular scheme.

Western Circle.

85. In Mangalore, South, light improvement fellings and creeper cuttings were done over an area of 1,270 acres. In Mangalore, North, 1,645 acres were so dealt with. The work is an important one and should receive special attention. In South Malabar thinnings were begun in five of the teak plantations but were not completed (area not stated). *Loranthus* was removed and burned from an area of 306 acres. Creeper cutting was done in 293 acres; pruning over an area of 80 acres and the weeding of 450 acres of young teak plantation were carried out. In South Coimbatore, 295 acres were weeded to free young teak, rosewood and *Pterocarpus*. As usual the cutting or girdling of soft wooded trees in fuel coupes was carried out in Kollegal and North Coimbatore. In the Nilgiris, improvement fellings and creeper cutting was carried out over an area of 160 acres in block I of the Mudumalai working circle and thinning in the Mutinad plantation. Dead, dying and unsound teak were extracted from an area of 992 acres.

(d) Experiments.

86. Sandal is reported to be doing well in most divisions, especially at Diguvattetta in Kurnool South and at Kondapalli in Kistna. As regards other species the experiments are at present on such a minute scale as to call for no special notice.

Northern Circle.

Test of annual increment.—In Gōdāvari Lower with a view to determine the quantity of annual growth, five sample plots of 1 acre each were taken in the portion worked out in Kovvada fuel coupe of the Polavaram range. They were clear felled and the results recorded.

87. There is nothing of interest to report. *Dalbergia sissoo*.—In the Moka plantation in Bellary, the height of the old plantations varies from 20 to 25 feet, in those of 1912-13 from 3 to 6 feet and in those of 1913-14 from 1 to 4 feet. *Eucalyptus globulus*.—The growth in West Cuddapah is reported to be not satisfactory, but in East Cuddapah and Chittoor they are reported to be growing fairly well. *Acacia auriculiformis*.—These plants in West Cuddapah are still surviving but are not doing well. *Swietenia Mahogany*.—In East Cuddapah, these plants with the exception of 3 are alive but the rate of growth is very slow. In Chittoor they continue to do fairly well.

Central Circle.

88. (1) *Dalbergia Sissoo*.—This species is doing well in North Vellore but failed in South Arcot.

Southern Circle.

(2) *Pterocarpus Santalinus*.—This species continues to do well in the Amerdi and Banavaram plantations of North Vellore and as the tree is easy to propagate it should be much more widely introduced in this district.

(3) *Experiment to destroy creeper growth*.—This was tried in several districts. In Northern India it was recommended that the cut ends should be treated with a thick lime paste. It is too early to state definite results at present but the lime paste does not appear to stop the growth.

(4) *Sandalwood girdling experiments*.—These experiments were started by the Working Plans Officer in South Vellore as it was claimed for girdling

(a) that rootshoots would be produced,

(b) that the heartwood would be increased,

(c) that by the gradual killing of the tree the heartwood would not be liable to cracking.

The experiment is as yet imperfect but it is observed that, though a large number of shoots spring up from below the girdle, true rootshoots are not produced unless the actual root is wounded. There does not appear to be any increase in heartwood by girdling but further observation is necessary. As the trees have not been removed yet no report on the third point is possible.

89. Painting with lime of stumps of creepers cut was tried but no definite results have been arrived at yet. In Mangalore South, an attempt on a small scale was made to float timber down the Paishwani river to Kasaragod. Seven hundred and thirty-eight cubic feet were brought down at a cost of Rs. 218 (excluding felling charges), the timber and bamboos realizing Rs. 399. In the Nilgiris and South Coimbatore, experiments in teak regeneration were carried out; in the former district the growth except teak seed bearers being removed and the ground worked up on one acre, on a second acre the growth was clean felled and teak seed dibbled in, in a third acre the area was clean felled; in the latter district five plots aggregating two acres were clean felled and dibbled with teak seed at stake to three feet intervals and weeded, the cost amounting to Rs. 141: a cheaper method of regeneration is now being looked for. In North Coimbatore a plot was laid out in Minchuguli to test the effect of removing grass from areas in which rosewood and *Pterocarpus* seedlings and root suckers were coming up. Another area of 80 acres about two miles south of Girgagandi in *Hardwickia binata* area was put under special fire protection to see the result on regeneration. Mr. Nelson's bamboo pulp scheme in Malabar is held in abeyance on account of the war and because of the flowering of the bamboos. South Coimbatore reports that the clearing of grass round trees to induce regeneration is a failure, not a single seedling being available for an expenditure of Rs. 569. This is a work prescribed in the working-plan but the cost emphasises the need for learning to walk before attempting to run. Bark of *Acacia dealbata* and leaves of *Frenelia rhomboides* have been supplied to two firms from the Nilgiris for experiments in tanning and the extraction of oil.

Western Circle.

5. EXPLOITATION.

(a) System of management.

Northern
Circle.

90. The total area for which regular working-plans were sanctioned was 2,423 square miles and the area dealt with under different sylvicultural systems are detailed below:—

Sylvicultural system.	Area in square miles.	Per centage.
(1) Clear felling...	147	6.07
(2) Selection felling...	52	2.14
(3) Simple coppice felling...	83	3.43
(4) Coppice with standard felling...	315	13.00
(5) Improvement felling (mostly selection)...	469	19.35
(6) Unworked areas...	1,357	56.01
Total ...	2,423	100.00

(i) MAJOR FOREST PRODUCE.

(1) Clear or Regeneration Felling.

91. Six coupes in *Ganjām*, two compartments in *Gōdāvari, Lower*, 2½ compartments and 10 coupes in *Kistna*, the new boundary lines and the fire lines in *Kurnool, South*, were felled under this system.

(2) Selection Felling.

92. *Ganjām*.—Twenty sal trees of over 7½ feet in girth were extracted departmentally from Rambha reserve under the working-plan. The indent system for the disposal of the valuable timber species from unreserves has been in force for eight years. The demand under this system decreased during the year under report as the rate for sal was raised from 6 to 12 annas per cubic foot. *Vizagapatam*.—Wind-fallen and top-broken sal timber from two reserves in Palakonda range was brought down to depots. *Kurnool, East*.—Five hundred palmyras from Badvid reserve, dying mis-shapen and rotten trees of other species in Gudem, Dornal, Markapur and Cumbum ranges were selected and felled. *Kurnool, South*.—One hundred and thirty mature palmyra trees were removed from Owk extension reserve. *Kurnool, West*.—Selection felling combined with improvement felling was carried out in the Gundlābrahmeswaram working circle. Dead timber from hill forests was also removed under this system.

(3) Regular Thinnings.

93. In *Gōdāvari, Lower*, a second thinning of compartment VI of Kandikuppa plantation was carried out during the year.

(4) Improvement Felling.

94. In *Ganjām* 1,553 dead sal trees from Gogoda reserve, 1,599 sal trees from Ambazora reserve, 168 sal trees from Chendragiri reserve and 812 dead sal trees from Kriamba C block were sold standing to contractors. In *Gōdāvari, Lower*, besides 38 acres of compartment III of Kandikuppa plantation which were cleared, in eight reserves the right to remove deadwood was leased out to contractors with a view to improving the growing stock. In *Kurnool, East*, only dead trees and tamarind trees which had passed the fruit-bearing age in a coupe were sold to a contractor; Chenohus were employed to fell dead trees to supply fuel to Markapur town and for making spokes and felloes from dead teak and *Pterocarpus* trees. In *Kurnool, South*, two coupes were worked under this system. In Chelama range the improvement felling was found to be a form of intensive exploitative operation devoid of ordinary sylvicultural safeguards. This grave error has now been rectified. In *Kurnool, West*, all the timber coupes in the Nallamalais, Terai, one coupe in South Dhona range and one in Gadidamadugu reserve were similarly treated.

(5) Coppice with standards.

95. Three fuel coupes in Gundlābrahmeswaram, eleven fuel coupes in *Vizagapatam*, five fuel coupes in *Gōdāvari, Lower*, one coupe in *Kistna*, nine fuel coupes in *Kurnool, South*, and two coupes in *Kurnool, West*, were exploited. During this year the District Forest Officer, *Vizagapatam*, introduced into his division the practice of selling the coupes standing.

(6) Simple Coppice.

96. In *Gōdāvari, Lower*, four fuel coupes in Rajahmundry range and three in Polavaram and one in Gokavaram ranges were treated under this system. I am inclined to think that this method is unsuitable for hill sides and probably also for the plains unless the hot weather is very short or the stock is possessed of a high degree of growing energy.

(7) Unregulated Felling.

97. In *Vizagapatam* permits for timber and fuel from unreserves were issued. In *Gōdāvari, Upper*, the right of cutting and removal of timber was not leased out. In *Gōdāvari, Lower*, unregulated fellings were confined to Rampa and to certain unreserves under the control of the Forest Department; the mada fuel from the Hope island was removed on permits issued by the Marine Department; the only unregulated fellings in reserved forests was in the Coringa reserve where the Public Works Department was permitted to remove mada poles and brushwood for river conservancy work. The Hope island which contains valuable forest is at present under the control of the Marine Department in payment of a nominal sum of Rs. 100 per annum. Apart from the loss of revenue over Rs. 9,000 per annum the forest is deteriorating from want of supervision; the Collector considers that its transfer to the Forest Department is advisable. In *Kurnool, West*, permits were granted only for palmyra trees.

98. The total area under working-plans was 1,866 square miles and the various sylvicultural systems in force are shown below:—

Sylvicultural system.	Area in square miles.	Percentage.
(1) Method of clear felling by compartment ...	7	.37
(2) Simple coppice ...	729	39.06
(3) Coppice with standards ...	304	16.29
(4) Method of improvement fellings ...	826	44.28
(5) Area closed to felling or worked under no definite sylvicultural system...		
Total ...	1,866	100.00

99. The total area of forests under working-plans is 2,816 square miles. The various sylvicultural systems in force over this are shown in the following table:—

Sylvicultural system.	Area in square miles.	Percentage.
(1) Clear fellings ...	1	0.04
(2) Simple coppice...	180	6.39
(3) Selection fellings ...	251	8.91
(4) Coppice with standards ...	1,204	42.75
(5) Improvement fellings ...	431	15.31
(6) Pastoral method ...	36	1.28
(7) Forest for which working-plans have been prepared but not subjected to any definite working ...	713	25.32
Total ...	2,816	100.00

(1) Clear or Regeneration Felling and (2) Simple Coppice.

100. Two coupes of 620 acres of casuarina in *South Arcot* were clear felled as also ten tank-beds in Tinnevely. Simple coppice is being gradually introduced into *North and South Salem* in places where the standards available are so poor as not to demand consideration.

(3) *Selection Fellings.*

101. The area shown under this head relates chiefly to bamboos.

(4) and (5) *Improvement and Coppice Fellings.*

102. *Improvement fellings.*—The great majority of the area shown under this head relates to sandal fellings.

Coppice with standards.—The following coupes were felled under coppice with standards. 29 fuel coupes of 2,486 acres in *North Vellore*, 38 fuel coupes aggregating 2,190 acres in *South Vellore*, 51 coupes of 3,784 acres in *South Arcot*, 8 coupes of 1,852 acres in *North Salem*, 26 fuel coupes in *South Salem*, 22 coupes of 1,525 acres in *Trichinopoly*, 42 coupes of 2,766 acres in *Madura* and 14 ghat forest coupes and 5 plain forest coupes in *Tinnevely*.

(6) *Unregulated Fellings.*

103. In *North* and *South Vellore*, *South Arcot* and *South Salem* unregulated fellings under the permit system were confined to unreserves. In the reserves of Palni range of *Madura*, selected and marked timber trees were sold for domestic requirements on payment of seigniorage fees.

104. The various sylvicultural systems in force over the areas under sanctioned working-plans are summarised below:—

Sylvicultural system.	Area in square miles.	Percentage of total area under each sylvicultural system.
Method of clear fellings by compartments	81	1.70
Selection method	313	17.16
Simple coppice	4	.22
Coppice with standards	312	17.10
Method of improvement fellings	134	7.35
Forests for which working-plans have been prepared but not subjected to any definite system of working	1,030	56.47
Total	1,824	100

(1) *Clear or Regeneration Fellings.*

105. In *South Malabar*, 27.71 acres in New Amarampalam reserve were clear felled for the formation of teak plantation; the amount realized was Rs. 809.

(2) *Selection Fellings.*

106. *Mangalore divisions.*—Selection fellings were carried out over 40 acres in coupe I of Madibare timber working circle and in Shibaje coupe VIII. Overmature trees in compartment 1 of Jalsur east block were sold standing and the contractor felled 122 trees which yielded 7,847 cubic feet. *North Malabar*—Three hundred and six acres in coupe XIX of Begur and 140 acres in coupe II of Chedleth were felled. The *Nilgiris*—Unsound and dead sandal trees which yielded 375 quarters were extracted from compartment 2 of Sigur range. *Kollegal*—Spiked and dead sandal trees were removed from coupes I to IV and VII of Madeswaranmalai and coupes I and V of Bailur and from certain other areas; the total yield was 79 tons. *North Coimbatore*—Eight thousand four hundred and seventy-nine sandal trees which yielded 154 tons were felled in three coupes covering 12,672 acres. *South Coimbatore*—The balance of coupe VIII of Punachi working circle which was left over last year and parts of coupes IX and X were felled.

(3) *Simple Coppice.*

107. Thirty-four acres of Eucalyptus and Acacia plantations in the *Nilgiris*.

(4) *Coppices with standards.*

108. *Mangalore divisions.*—Nineteen fuel coupes covering about 485 acres in Coondapur and Sankaranarayana ranges, 5 acres in Narimogar coupe II, and portions of two coupes in Kasaragod range were coppiced. Ten acres in Udipi were cut for supplying fuel to 33 sandalwood oil stills. Portions of two coupes covering 193

acres in Kollegal, eleven coupes (882 acres) in *North Coimbatore*, eighteen coupes (1,264 acres) in *Central Coimbatore* and nine coupes of 375 acres in *South Coimbatore* were felled for supply of fuel and also five coupes in *North Coimbatore* for supply of drag poles and agricultural implements.

(5) *Improvement Fellings.*

109. *Mangalore North.*—Coupe VI of Pilarkan (50) acres was worked for fuel (sic); the yield was 4,320 cubic feet. (It is not explained how this was an improvement felling.) *South Malabar*—Thinnings were carried out in the teak plantations and 4,133 trees and saplings were extracted. Seven thousand and one teak saplings damaged by elephants in the Karimpoya plantations were cut back. The *Nilgiris*—Nine hundred and ninety-two acres in compartment 3 of block I of Mudumalai working circle was worked over; the yield was 37,833 cubic feet of teak and 2,871 cubic feet of other species as well as 710 teak poles. Compartment 1 of Mutinad plantation (7.27 acres) and *Cryptomeria japonica* in compartment 2 of block I of Cairn Hill working circle were thinned; the yield in the former was used for the manufacture of charcoal. *South Coimbatore*—Improvement fellings were made in coupes VII, IX and X of Punachi working circle—area not reported.

(6) *Unregulated Fellings.*

110. *Mangalore divisions.*—Firewood required for working 95 cinnamon oil stills and for boiling catechu was removed from unreserved lands. Timber was also removed from unreserved lands on payment of seigniorage and dead and wind-blown trees were sold in a few instances from reserved forests. *North Malabar*—One hundred and six rosewood trees were felled from Chedleth and Begur coupes for a special supply. *South Malabar*—Twenty-nine irul (*Xylia*) trees were removed from Arimbrakutta reserve on payment of a fixed value. The *Nilgiris*—Small timber and fuel were as usual removed on permits. *North Coimbatore*—Twenty-six thousand one hundred and eleven cubic feet of timber and 22,722 cubic feet of fuel were removed on permits from unreserved lands.

(ii) *MINOR FOREST PRODUCE.*(1) *Bamboos.*

111. Almost throughout the circle the bamboo coupes in reserved forests were sold to contractors. Northern Circle.

(2) *Miscellaneous Produce.*

112. Seigniorage was collected on gravel, earth and other minerals; the usufruct of mango, tamarind and other fruit trees was sold in auction; the collection of cassia and other barks, honey, wax, myrabolams, hides, horns, etc., was leased out. In *Ganjām* fruit trees were generally left to the free use of Khonds; *Mallotus* powder was collected and sold at a small profit; in *Vizagapatam* seigniorage was collected in Golconda taluk at the weekly markets from purchasers of produce collected by hillmen; in *Godāvāri, Lower*, the right to cut *Cassia auriculata* bark in *Rajahmundry* was not sold for want of proper bids and permits were as usual issued for the removal of minor produce from Rampa and the agencies of Polavaram and Yellavaram; in *Kistna* one quarry was leased out to the Local Fund Department and another to a contractor; in *Kurnool, East* and *West*, tamarind, soapnuts, myrabolams, nux-vomica seeds, wax, horns and honey were collected through Chenchus and sold; in the latter division sold in auction and in the former sold to a merchant who agreed to buy all the minor produce for 12 months at fixed rates; cassia bark which used to be collected by contractors in past years has also been reserved in part in the former division providing work for Chenchus, and the quantity so collected was sold departmentally to a contractor.

(3) *Extraction of Fodder.*

113. In *Godāvāri, Lower*, the right to cut and remove thatch and fodder grass from the Coringa and Kandikuppa reserves and in *Kistna* such right for fodder grass and mangrove leaves were leased out. In *Kurnool, South*, a certain quantity of

fodder grass was removed from part of Owk and Giddalore ranges as the quantity available outside was insufficient owing to the large number of cattle maintained. In *Kurnool, West*, fodder was collected departmentally for Government bullocks.

(4) Hay-making.

114. No operations were undertaken except in *Kurnool, South*, where fodder grass was collected for feeding Government bullocks in the hot weather.

(5) Grazing.

115. The permit system was in force in all the divisions. The revenue derived was Rs. 1,19,005 against Rs. 1,20,040 in the previous year. The decrease is attributable in *Ganjām* to two reserves being under process of transfer to 'panchayat management, and to eight reserves having been disafforested and in *Kurnool, West*, partly to the new system of collecting fees for foreign cattle in penta, under which graziers have to pay for the whole year instead of purchasing quarterly permits. The Collector of *Kurnool* remarks in this connection:—

"Proposals were submitted to the Board for enhancing grazing fees, including those for 'penta' cattle. The matter, however, is in abeyance, pending the introduction of the scheme for 'forest villages' recently started. The scheme implies (a) a re-examination of all the areas open to grazing, (b) a fresh computation of the number of cattle to be provided for, (c) a re-allotment of grazing area taking into consideration not merely acreage, but the physical characteristics of the ground, (d) an enhancement of fees, with privileged rates for cattle of 'forest villages,' the idea being to obtain a 'lever' by which to move their inhabitants to co-operation. All this will take at least a couple of years, and it is worth considering whether the indefinite postponement of the raising of the rates is desirable."

(1) Miscellaneous Produce.

Central
Circle.

116. Minor produce was leased out to contractors as usual in all the districts except in the *Sriharikōta* range of *Nellore* district where for local reasons the produce was continued to be collected and sold departmentally. The increase in the price of manure leaf to Rs. 1-8-0 per cart load in *Chingleput* had the effect of reducing the demand.

Permits continued to be issued for stone, earth and road materials.

(2) Extraction of Fodder.

117. The Military Grass Farm Department continued to hold leases in *Bellary*, *Anantapur* and *East Cuddapah* at Rs. 2 per ton of made-hay. In *Bellary* Mr. Howes cut and removed 450 tons of hay from the lease of closed compartments and Mr. Sanders, a private contractor, was allowed to remove fodder from certain reserves for Rs. 200.

(3) Free removal of Grass.

118. Free removal of grass was continued to be allowed except the leased areas in all the districts except *Chingleput* where it is reported there was no demand. The concession was largely availed of in *Guntūr* as all the closed areas were thrown open for free removal by the public as a result of the enhancement of grazing fees during the year. In *West Cuddapah* the withdrawal of the concession was under consideration as some of the villagers adjoining *Lankamalais* and *Nallamalais* failed to help in putting out fires.

(4) Hay-making.

119. No departmental operation for manufacture of hay was conducted during the year.

(5) Grazing.

120. The revenue realized during the year was Rs. 3,13,777 against Rs. 2,99,154 of last year. The increase was chiefly in *Guntūr* and *Nellore* due to collection of grazing fees at enhanced rates sanctioned during the year in the former district and to the extension of the kancha system in the latter district except in *Kanigiri* and *Sriharikōta* ranges. Increase in *Chittoor* is small and needs no remark. The decrease occurred in the other districts which was chiefly due to the reduction in the

number of goats in *Bellary*, in *Anantapur* to closure of some reserves, in *East Cuddapah* to non-issue of penning permits for certain reserves, and in *Chingleput* to closure of portions of reserves for experimental kanchas and closure of felled coupes and assignment of certain reserves for panchayats.

(1) Miscellaneous Produce.

121. Minor forest produce was as usual leased out. Permits were issued for manure leaves in *North* and *South Vellore*, *South Arcot* and *Trichinopoly*. In *South Vellore* this practice is to stop next year and it would be well if a similar reform were introduced into other districts. Four tons of *Divi Divi* pods were collected departmentally in *North Vellore* and sold for Rs. 156. The *Divi Divi* pods collected in *Trichinopoly* were sold at Rs. 32 per ton. The low prices obtained are surprising considering the demand for tans.

(2) Extraction of Fodder.

122. Free removal of grass was allowed in *North* and *South Vellore* and *South Arcot*. In *North Salem* the grass in five closed coupes and two specially protected blocks sold for Rs. 196. In *Mahura* removal of grass was allowed on permits. In *Tinnevely* grass was included in the minor forest produce contract.

(3) Hay-making.

123. In *North Vellore* the *Banavaram*, *Kylasagiri* and *Panamadangi* reserves and the *Palar* plantations were leased out to the Military department on payment of royalty of Rs. 2 per ton of hay removed, Rs. 774 were realised during the year against Rs. 303 in the previous year. It is obvious that this contract is capable of expansion.

(4) Grazing.

124. The revenue derived from grazing was Rs. 1,69,467 against Rs. 1,92,251 in the previous year — a decrease of Rs. 22,784 or 11.8 per cent. The decrease is general and is to be partly attributed to the season and partly to the change in the grazing system.

In *North Vellore* panchayat fees were not collected, whilst in *Trichinopoly* the *Padugais* were handed over to the Public Works Department.

With the transfer of grazing reserves to panchayats a decrease in the gross receipts must be expected but less establishment will be required.

(1) Bamboos.

125. Three coupes covering 3,043 acres in *Mangalore North*, *Nerankimale* coupe II (area not reported) in *Mangalore South*, ten coupes of 20,970 acres in *North Coimbatore*, four coupes of 664 acres in *Central Coimbatore* and six blocks (area not reported) in *South Coimbatore* were leased out. Removals on permits were allowed in *Mangalore North*, *Malabar North*, the *Nilgiris*, *Kollegal* and *South Coimbatore* to meet local demands and from the natural forests of *South Malabar* for floating timber purchased by contractors. Bamboos were extracted departmentally in *Mangalore North* and *South Malabar* for rafting and floating timber.

(2) Miscellaneous Produce.

126. Minor produce of importance was generally leased out on lump sum contracts. The manufacture of catechu in *Mangalore North*, collection of all produce in *Mudumalai* and *Tunacadavu* ranges in the *Nilgiris* and *South Coimbatore* respectively and of gallnuts, sambhur and deer horns, honey, etc., from reserved forests in *Kollegal* were carried out departmentally.

(3) Extraction of Fodder Grass.

127. Fodder grass was removed on permits in the four divisions of *Coimbatore*, on the plateau in the *Nilgiris* and in *Beypore* tope in *South Malabar*. The concession of free removal of grass from reserved forests was not required in *Malabar* as the demand was met from elsewhere and was not permitted in *Coimbatore* as there was no necessity. Free removal of thatching grass was allowed in *Mangalore* divisions and in certain parts of the *Nilgiris*.

Cuddapah, free grazing of 738 cows and bulls of the ryots of Settigunta and its hamlets was allowed according to the terms of the settlement of Settigunta reserve. In Nellore, the concession plots granted in three reserves for felling by the Kathiras in case of necessity was withdrawn.

The statement appended below shows the particulars of free grants made during the year which were chiefly for rebuilding houses destroyed by fire. In Bellary, certain grants were made for plague sheds and in Nellore palmyra trees and leaves were granted for the construction of huts by Yerukula settlement.—

	Timber.		Fuel.		Bamboos		Grass and grazing.	Other minor produce.	Total.
	Cubic feet.	Value.	Cubic feet.	Value.	Number.	Value.	Value.	Value.	Value.
Right-holders	..	Rs.	..	..	..	Rs.	Rs.	Rs.	Rs.
Free-grantees	47,728	5,430	..	..	15,288	167	..	813	1,048
Total	47,728	5,430	..	..	15,288	167	138	813	6,048

Southern Circle.

141. The privileges allowed were as usual for grazing at reduced rates in North and South Vellore.

The estimated value of free grants was Rs. 8,608 against Rs. 13,568 in the previous year. The decrease is due chiefly to cessation of supply of korambu materials to the Public Works Department in Trichinopoly district consequent on the transfer of padugai forests to that department.

The quantity and estimated value of produce removed by right-holders and free grantees are shown in the following abstract:—

	Timber.		Fuel.		Bamboos		Grass and grazing.	Other minor produce.	Total value.
	Cubic feet.	Value.	Cubic feet.	Value.	Value.	Value.	Value.	Value.	Rs.
Right-holders	..	Rs.	..	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Free grantees	18,824	2,155	2,879	180	484	5,722	97	1,115	1,115
Grants at reduced rates ..	..	..	..	..	..	1,096	..	..	1,096
Total	18,824	2,155	2,879	180	484	7,717	1,212	1,115	11,718

Western Circle.

142. The following statement shows the quantity of produce removed by right-holders and free grantees and its estimated value:—

	Timber.		Fuel.		Bamboos.		Grass and grazing.	Other minor produce.	Total.
	Cubic feet.	Value.	Cubic feet.	Value.	Number.	Value.	Value.	Value.	Value.
Right-holders	15,450	6,180	..	..	..	..	..	..	6,180
Free-grantees	..	777	..	..	4,820	88	870	45	1,780
Total	15,450	6,957	..	..	4,820	88	870	45	7,960

The value of produce enjoyed by right-holders has decreased from Rs. 15,250 to Rs. 6,180. These removals are entirely from the Mangalore divisions and the decrease has not been explained. Free grants were as usual made in Mangalore North chiefly for the construction of and repairs to temples, churches and religious institutions. The grants made elsewhere were for works of public utility such as repairs to culverts and construction of foot bridges and for re-building houses destroyed by fire. The Badagas in the Nilgiris continued to collect fuel required by them on payment of Re. 1 per annum per house. Check over this removal is indifferent due to lack of

establishment. There are 2,500 households of which 1,778 took permits; the average value of the fuel removed by Badagas during a year is estimated to be Rs. 20,000 which amounts to a free grant of about Rs. 18,000. This system results in damage to the sholas because though in theory deadwood only is removed, actually much "dead" wood is created. Todas were allowed to graze their buffaloes in reserved forests free and the estimated value of such grazing is reported to be Rs. 779.

143.

(c) Outturn and sources of Forest Produce.

Northern Circle.

Agency.	Timber in cubic feet including sandalwood.		Fuel in cubic feet.		Bamboos in value in rupees.		Minor produce (including grass and grazing) gross value in rupees.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
By Government	250,028	271,447	868,983	648,750	6,550	4,523	12,844	8,314
By purchasers (including confiscation).	1,288,226	906,369	(a) 4,459,851	(a) 4,074,398	93,189	1,41,664	2,13,695	2,74,819
By right-holders	184,136	167,198	582,195	592,195	552	407	24,649	23,869
By free grantees	86,853	47,520	..	3,462	671	278	2,836	119
Total	1,809,243	1,392,524	5,910,981	5,308,805	1,00,953	1,46,882	2,54,024	3,07,121

The variations have been explained where necessary. The rates for grazing fees levied in the several divisions are shown in form 74. The number of animals licensed to grazing on permits was 575,620 against 866,732 in the previous year.

144. The following statement gives the total outturn compared with the previous year:—

Central Circle.

Agency of exploitation.	Timber in cubic feet including sandalwood.		Fuel in cubic feet.		Bamboos in number.		Minor produce (including grass and grazing) gross value in rupees.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
By Government Agency ..	41,071	19,816	38,063	24,321	12,200	1,773	14,701	8,487
By purchasers (including confiscation).	1,048,168	930,733	6,581,517	6,288,826	1,833,386	2,578,071	6,31,218	7,63,061
By right-holders	..	..	..	..	..	..	151	138
By free grantees	88,548	47,728	..	..	17,127	16,268	1,320	313
Total	1,114,777	998,277	6,620,580	6,412,647	1,862,713	2,595,132	6,47,390	7,71,939

Departmental operations have entirely ceased but small quantities of timber and bamboos were extracted for departmental buildings and fuel was obtained in clearing coupe and boundary lines.

145. The total outturn is given in the following statement:—

Southern Circle.

Agency of exploitation.	Timber including sandalwood in cubic feet.		Fuel in cubic feet.		Bamboos value.		Minor produce including grass and grazing value.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
By Government Agency ..	19,338	17,281	62,294	70,432	201	289	581	539
By purchasers	920,866	798,388	4,777,552	4,239,113	1,01,789	1,10,592	3,82,215	3,76,879
By right-holders	..	..	..	..	..	..	2,405	1,115
By free grantees	90,493	18,824	3,984	2,879	303	454	5,267	5,819
Total	1,030,697	834,443	4,843,830	4,312,424	1,02,293	1,11,435	3,90,148	3,84,346

The variations have already been explained. The rates for grazing fees levied in the several districts are shown in form 74. The number of animals licensed on payment was 1,059,589 against 1,267,224 in the previous year.

(a) Corrected in the Board's office.

146. The outturn of produce collected by different agencies is compared with that of the previous year in the following abstract:—

Agency of exploitation.	Timber including sandalwood in cubic feet.		Bamboos in number.		Minor produce in number.	
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.
By Government Agency.	437,121	308,807	610,149	631,608	98,757	111,911
By purchasers	468,886	379,148	3,937,906	3,219,887	7,303,240	5,613,348
By right holders	36,175	15,450				
By free grantors	3,761	4,385	340	580	3,920	4,820
Total	945,943	707,785	4,577,795	3,841,075	7,410,917	5,730,079

By Departmental agency—Major produce.—The decrease under "timber" chiefly in *South Malabar* and *South Coimbatore* due in the former to the smaller yield from the thinnings made in the plantations and from wind blown trees, and in the latter to the stoppage of felling in the Tekadi leased forests pending transport of large stock of timber remaining in the forests, while that under "fuel" was generally to the extension of contract system and to stoppage of fuel felling in Bargur range in *North Coimbatore* for want of demand. *Minor produce* increase under "bamboos" was due to a larger number extracted in *South Malabar* for rafting timber. *Other produce.*—The total outturn was 55 tons against 96 tons of the previous year; the decrease was mainly in *North Coimbatore* due to transfer of collection to private agency.

By purchasers.—The outturn under this head is generally unreliable owing to inaccurate yield figures given by coupe purchasers. The decrease under "Major produce" was due partly to a general fall in the number of applications for darkbark lands and in the removals from unreserved lands; the revenue officers have not explained the variations under these heads. The non-sale of Chedloth coupes in *North Malabar* for want of demand and a smaller number of timber from the fuel coupes in *South Coimbatore* accounted to some extent the fall under "timber". *Minor produce.*—The outturn of "bamboos" fell by over two millions in *South Coimbatore*; there were small increases in *Central* and *South Coimbatore* and *Kollegal*. The decrease under other produce was mainly in *South Coimbatore* due to lower prices realized for leases.

CHAPTER III.—FINANCIAL RESULTS.

147. The financial results compared with those of last year and the average of five preceding years show a net increase of Rs. 82,859 and Rs. 1,168 respectively.

Items.	1915-16.	1914-15.	Average of five preceding years.
Revenue	7,44,905	7,79,000	7,55,000
Expenditure "A. Conservancy and Works" inclusive of "Refunds."	2,30,591	2,30,591	2,30,591
Expenditure "B. Establishments"	3,81,341	3,95,000	3,75,000
Total expenditure	6,11,932	6,25,591	6,05,591
Net results	+ 72,763	+ 53,409	+ 149,409

The gross receipts were less than those of the previous year and the average by Rs. 25,488 and Rs. 30,744 respectively.

The gross revenue and the net revenue of *Gōdāvari Lower*, are the highest record since the division was constituted.

The expenditure under "A. Conservancy and Works" including refunds was less than that of the previous year and the average by Rs. 49,128 and Rs. 1,43,744 respectively.

respectively. The net results show an increase of Rs. 72,763. This is chiefly due to the change of system from departmental to contract working and to the curtailment of expenditure on capital works on account of the war.

About 38 per cent of the expenditure was devoted to the upkeep and improvement of the forests and 62 per cent to exploitation, etc.

The outstanding revenue at the commencement of the year was Rs. 77,846 and the value of the sales amounted to Rs. 7,74,065. Out of the total of Rs. 8,51,912, Rs. 7,44,905 were collected, leaving an outstanding balance of Rs. 1,07,007.

RECEIPTS.

(i) By Departmental Agency.

Timber.—Rs. 14,302 due to extraction of a smaller quantity of timber in *Ganjām*, to non-realisation of revenue from timber in the Bointi unreserveds in *Vizagapatam* and to the anticipated number of coupes for improvement fellings and thinnings not having been worked in *Kurnool South*.

Fuel.—Rs. 12,549 due to diminution in the yield of the Kandikuppa plantation in *Gōdāvari Lower* to no casuarina plantations in the *Kistna* division having been sold during the year and to a smaller extraction of fuel in *Kurnool West* as the Sim's line which was widened during the year contained less fuel than was anticipated.

Bamboos.—Rs. 1,966 due to leasing of coupes to contractors.

Minor produce.—Rs. 2,187 due to non-collection of Kamala powder and *Bassia latifolia* in *Ganjām* owing to difficulty experienced in disposing of the previous year's stock.

(ii) By Purchasers.

Timber.—Rs. 31,655 due to fall of revenue under indent system in *Ganjām*, to reduction in demand from Public Works Department in *Gōdāvari Upper* and to restrictions placed upon removals of timber from Rampa in *Gōdāvari Lower*.

Fuel.—Rs. 47,685 due to the smaller number of coupes sold and to a less demand for permits owing to disafforestation of certain reserves in *Ganjām*, to less demand from Public Works Department for fuel for brick and lime burning in *Gōdāvari Upper*, and to special increase under this head in the previous year in *Gōdāvari Lower* owing to the sale of Bendamurlanka casuarina plantation.

Bamboos.—Rs. 28,739 due to better prices obtained in *Gōdāvari Upper* and to abnormal demand in *Gōdāvari Lower* for building and sugarcane purposes.

Grazing and fodder grass.—Rs. 1,035 due to disafforestation of certain reserves and to cattle-mortality in *Ganjām* and to the introduction in *Kurnool West* of the new system of collecting grazing revenue for foreign cattle in pentas, under which the graziers are required to pay fees for the whole year instead of purchasing quarterly permits.

Other produce.—Rs. 49,489 due to enhancement of rates of tree-owners' fees in *Gōdāvari Lower* and to better prices realised in *Cassia auriculata* bark sales in *Kurnool West*.

(iii) Miscellaneous (including confiscated drift and warwood).

Revenue.—Rs. 7,663 due to efficient check exercised by the river-checking staff in *Gōdāvari Lower* and to the fluctuating nature of the items.

EXPENDITURE.

A. Conservancy and Works.

The total expenditure was less than that of the previous year by Rs. 35,268 and the decrease was chiefly due to less departmental operations and to the curtailment of expenditure on capital works on account of the war.

B. Establishment.

The decrease of Rs. 16,225 was due to the posting of a lower grade Conservator to the circle and to the posting of a junior Extra Assistant Conservator to the charge of the *Vizagapatam* district.

In the Northern Circle, perhaps more than any other, for many years past as regards major forest produce we have been encroaching on our capital, and consequently for many years to come we have to restore that depreciated capital and cannot anticipate any increase in revenue. But the contrary is the case in the matter of minor forest produce, bamboos and grazing, and we have a right to expect considerable development of these sources of revenue in the immediate future. For some months past I have requested the District Forest Officers to make every effort to expand the revenue from minor forest produce and bamboos by giving contracts for two years instead of one, if desirable, and by offering the lease of products hitherto unexploited. The present stimulus to industrial enterprise and the post-war conditions will doubtless greatly facilitate our efforts in this direction. The bark of the babul and mangrove and the fruit of babul, *Phyllanthus* and *Terminalia chebula* have been either not at all or to a very slight extent utilized as tannin-producing material. There is large scope also for the exploitation of forest fibres.

Match factories and pulp installations should enormously appreciate what were formerly considered "useless" species. It is particularly unfortunate that at the present juncture we have hardly any marketable timber in the circle, as England will probably for many years to come take every stick that its dependencies and foreign countries can supply.

With reference to grazing it is now an accepted principle that the actual fees are for the most part far below the market value of the pasture offered. Enhancement is consequently to be anticipated.

148. The financial position of the year compared with that of the previous year and the quinquennial average is shown in the following abstract:—

	1915-16.	1914-15.	Average of preceding five years.
Revenue	Rs. 11,80,976	Rs. 10,6,120	Rs. 11,21,429
Expenditure.			
A.—Conservancy and works including refunds.	1,96,479	2,51,896	3,83,145
B.—Establishments	3,81,218	3,99,058	3,62,080
Total of A and B ..	5,76,697	6,50,953	7,45,225
Net result ..	+ 6,04,279	+ 4,59,167	+ 3,76,224

The net results show a surplus of Rs. 6,04,279 against one of Rs. 439,167 in the previous year and of Rs. 3,76,224 the quinquennial average. Of the receipts 28 per cent were realised from major produce, 27 per cent from grass and grazing, 37 per cent from minor produce and 13 per cent from miscellaneous items. About 38 per cent of the expenditure was devoted to the upkeep and improvement of the forests and 62 per cent to exploitation, etc. It will be observed from Form No. 79 that the value of timber and other produce at sale depots at the close of the year amounted to Rs. 1,019 against Rs. 720 at its commencement. The revenue outstanding was Rs. 2,01,667-5-7 of which Rs. 7,082-1-7 fell due within the year.

The important variations between the actuals of the year and those of the previous year are explained below:—

RECEIPTS.

(i) By Departmental Agency.

The variation under timber is due to cessation of departmental operations and non-extraction of timber from Kodur-Upperapalli plantations in East Cuddapah as was done in the previous year, that under bamboos and sandalwood is small and calls for no remarks. Under fuel the decrease is due to alterations effected during the year on account of wrong credit made last year under this head and under minor forest produce to the realisation in 1914-15 of revenue belonging to the year preceding it.

	RS.
Timber	— 1,650
Fuel	— 7,576
Bamboos	+ 9
Sandalwood	— 229
Minor forest produce	— 7,462

(ii) By Purchasers

The decrease under timber is due to a falling off in the sale of trees on darkhast lands in Bellary, Anantapur, Nellore, Chingleput and Chittoor and that under fuel is due chiefly to low prices secured for Sriharikota fuel coupes in the Nellore district, to want of competition for fuel coupes in East Cuddapah and to the restriction in the issue of permits for unreserves in Chittoor.

Increase under bamboos is due to better prices realized in Bellary and East Cuddapah. The rise in the grazing revenue is due to enhanced grazing fees in the Guntur district, and to the extension of the Kancha system in Nellore. Under minor forest produce the increase is due to the very favourable sales of tangedu bark in Bellary, West Cuddapah and East Cuddapah and to increased amaroy revenue in the last-named district, to the collection during the year of the suspended tangedu kists belonging to the previous year in Anantapur, to the increased revenue from toddy-yielding trees on account of enhanced fees in Anantapur, Guntur and Nellore, and to the larger number of trees tapped in other districts.

(iii) Miscellaneous (including confiscated drift and waif-wood).

+ Rs. 26,080. The sale of fallow forest lands in Nellore district chiefly contributed to the increase.

EXPENDITURE.

A.—Conservancy and Works.

— Rs. 54,337. The main reasons for the decrease were —

Restricted programme of building works in all districts except West Cuddapah, the curtailment of cultural operations in Bellary, less expenditure on fire protection operations in Anantapur and to the absence of any large expenditure on account of compensation for acquisition of land in Guntur as in last year.

B.—Establishment.

— Rs. 17,840. Decrease due mainly to the posting of an Extra Assistant Conservator and Assistant Conservator in charge of Anantapur and Chittoor districts respectively which were held by Senior Deputy Conservators in the previous year.

Great care was exercised during the year in according sanction to works and in making recommendations for any extra establishment. Only works deemed to be of urgent necessity or revenue-producing were sanctioned and those which could wait were held back for more prosperous times. Similarly no recommendations for increase of establishment save in the most exceptional circumstances of real necessity were made. Everything was subordinated to the necessities of the war in the matter of expenditure in the department. More prosperous days are hoped for and will come, it is hoped, before long; for the department has been struggling against adversity and the most difficult conditions for many years past now.

149. The following abstract compares the financial position of the year under report with that of the previous year and the average of the preceding quinquennium:—

	1915-16.	1914-15.	Average of preceding five years.
Revenue	Rs. 10,40,794	Rs. 12,45,251	Rs. 13,88,891
Expenditure.			
A.—Conservancy and works (including refunds).	2,09,604	2,38,364	2,37,188
B.—Establishments	3,70,506	3,84,669	3,57,710
Total expenditure ..	6,80,110	6,22,933	7,94,898
Surplus ..	4,60,684	6,22,318	5,43,498

The net results show a surplus of Rs. 4,60,684. This large fall, as compared with previous years, is the natural outcome of the policy of selling the valuable casuarina plantations, divesting ourselves of the Trichinopoly padugais and generally concentrating work on hill rather than plains forest. The revenue decreased by Rs. 2,05,451 and the expenditure by Rs. 42,823. Of the receipts 43.8 per cent was from major produce, 47.7 per cent from minor produce and 8.5 per cent from miscellaneous sources. 3.4 per cent of the expenditure was spent on exploitation, 38.8 per cent on the upkeep and improvement of the forests and 57.8 per cent on miscellaneous items. The proportion of net to gross revenue fell from 50 per cent to 41 per cent. The outstanding revenue at the close of the year was Rs. 2,84,820 of which Rs. 25,002 fell due within the year. The estimated value of timber and other produce at sale depots at the close of the year was Rs. 52,093 against Rs. 51,851 at the commencement of the year.

RECEIPTS.

The important variations between the actuals of the year under report and those of the previous year are explained below:—

(i) By Departmental Agency.

Sandalwood + Rs. 63,827. Due to the fact that more energy was shown in the extraction of dead and dying trees in the sandalwood areas and to the fact that the market for sandal improved considerably.

(ii) By Purchasers.

Timber — Rs. 14,218. This is always a variable head depending as it does chiefly on the revenue derived from the sale of trees on darkhast lands.

Firewood — Rs. 2,11,912. Due to the sale of casuarina plantations in South Arcot and Tanjore districts in 1914-15 which largely increased the revenue of that year.

Bamboos + Rs. 14,955. Due to the collection during the year of an instalment relating to the previous year in North Salem and to the reasons explained in paragraph 135 supra.

Grazing — Rs. 22,784.

Minor produce — Rs. 2,863. } Due to reasons explained in paragraph 138 supra.

EXPENDITURE.

A. "Conservancy and Works."

The expenditure under A. Conservancy and Works decreased by Rs. 28,436 as compared with that of the previous year. The decrease was chiefly under A-II, A-VII and A-VIII due to less commission paid to permit issuing officers owing to reduced collections under II (d) and II (e), curtailment of expenditure under communications and buildings owing to financial stringency, the abandonment of cultural operations and the reduction in the number of watchers.

B. "Establishment."

The expenditure fell short of the previous year's by Rs. 14,063. The decrease occurs chiefly under I (b) Rs. 5,839 and contingencies Rs. 6,422.

B. I (b). — Due to the non-posting of an Extra Assistant Conservator to South Vellore for a greater portion of the year and to the posting of junior officers to South Vellore and Tinnevely.

Contingencies. — Due to there having been no adjustment during the year of the cost of uniforms and warm clothing to forest subordinates as in the previous year.

150. The financial position of the year is compared with that of the previous year and the average of the preceding quinquennium in the following abstract:—

Western Circle.

	1915-16.	1914-15.	Previous quinquennial average.
	Rs.	Rs.	Rs.
Revenue	9,71,890	9,12,000	8,13,720
Expenditure—			
Reforestation	2,653	5,268	4,790
A. Conservancy and Works	3,98,094	5,59,205	4,59,655
B. Establishments	3,78,791	3,66,882	3,57,506
Total expenditure	7,74,941	9,31,275	8,21,951
Net	+ 1,97,229	— 19,272	— 8,221

* Excludes Rs. 1,144 under "A. Conservancy and works" and Rs. 3,235 under "B. Establishments" incurred by the Working Plans Officer in June 1916, which relate to the Southern Circle.

The net results show a surplus of Rs. 1,97,229 against a deficit of Rs. 19,212 in the previous year and surpass any previous record for the circle. The gross receipts of the year exceeded those of the preceding year and the quinquennial average by Rs. 59,737 and Rs. 1,58,070 respectively. Fifty-nine per cent of the revenue was derived from major produce, eight per cent from grass and grazing, 13 per cent from minor produce and the balance 20 per cent from miscellaneous sources. Of the expenditure, 34 per cent was incurred on the exploitation of forests, 54 per cent on their upkeep and improvement and 32 per cent on miscellaneous items. The estimated value of the produce at sale depots at the end of the year was Rs. 68,147 against Rs. 24,261 at its commencement. The revenue outstanding was Rs. 1,03,635 of which Rs. 62,612 fell due within the year. The increase in outstandings is mainly due to sums due for estates on the Anamalais, on account of which about Rs. 40,000 has been collected since the end of the year.

The important variations between the actuals of the year and those of the previous year are explained below:—

RECEIPTS.

(i) By Departmental Agency.

Timber + 59,800. The increase was chiefly in North Malabar due to a special sale of rosewood, and to larger sales in the Nilgiris, South Coimbatore and South Malabar.

Fuel — 21,976 due chiefly to the extension of contract system partly counter-balanced by increased demand in the Nilgiris.

Bamboos + 3,273. Due to a larger number of bamboos used for rafting in South Malabar.

Sandalwood + 7,496. Due to better prices realised and to the increased outturn in the Nilgiris and Kollegal.

Minor produce — 4,110. Chiefly in North Coimbatore due to stoppage of departmental collection.

(ii) By Purchasers.

Timber — 21,683. Due chiefly in North Malabar to non-sale of timber coupes, in Chedleth for want of demand, and in Kollegal to fluctuations in the revenue from darkhast lands.

Bamboos + 15,469. Due to better prices realised for coupes and to the credit of previous year's revenue in North Coimbatore and to sale of a larger area in South Coimbatore.

Grazing — 5,567. Due to a smaller number of foreign cattle licensed for grazing in Kollegal owing to the favourable early rains in Mysore and Salem and to prevalence of cattle disease in North and South Coimbatore.

163. *Work and service of Superior officers.*—The work of Messrs. Minchin, Master, Lasrado, Seager, Madan, have been favourably commented on by the respective Collectors.

I am of opinion that every Imperial officer and with one exception every Provincial officer has worked in the forests devotedly. I have for the most part nothing but praise for their field work, although I noticed one or two silvicultural errors, and one lapse in the matter of the patrol system. With such a high average of conscientious effort it is almost invidious to single out individual cases for mention, but I feel that the general work of Messrs. Minchin and Lasrado in *Ganjām* and of Mr. Abdul Quadir in *Vizagapatam*, the fire protection of Mr. Thompson in *Karnool South* (in spite of an only partially successful season), and control of the Koyas by Mr. Rigold in *Upper Gōdāvari* should not pass unrecorded.

Mr. Stracey's work has been of great help to me.

The control over the District Forest office in some cases has not been quite as satisfactory as I could have wished and in one case markedly the reverse, but I feel that matters are rapidly improving.

Mr. A. W. Lushington, C.I.E., Conservator of Forests, first grade, retired from the service on 21st September 1915.

Central
Circle.

164. Mr. S. Cox held charge of the circle until 17th December 1915 and Mr. H. B. Bryant for the remaining period of the year. During the year the system of administration in the Presidency has undergone a great change consequent on the issue of G.O. No. 260, Revenue, dated 7th February 1916. The Government has by the issue of this order sought to place District Forest Officers in this Presidency in a more independent position than they have hitherto occupied. The object of the Government Order is that whilst retaining the general powers and authority of the Collector as head of the district for the welfare of the community in general, to leave in the hands of the District Forest Officer and Conservator all purely silvicultural and departmental matters. The change is bound to be productive of good results although difficulties will surely arise which will have to be met and surmounted as they occur. From the point of view of the Forest Administration the important question is that the District Forest Officer should not, by gaining independence of the Collector's interference in departmental matters, lose the assistance which he hitherto has got or ought to have got from the Revenue Officers such as Tahsildars, etc. If the Government Order is worked on sensible lines there seems no reason why he should do so, but there can be no doubt that the danger exists. The working of the new arrangement will more than ever depend on the whole-hearted co-operation of the Collector and the District Forest Officer of the district, and since in the past, this has generally stood a far greater strain, there is no justifiable reason to doubt that it will be equal to the demands of the present and future.

165. *District and Range changes.*—Administrative sanction of Government has been obtained for the trifurcation of *Cuddapah* district but the sanction of Government in the Financial department is awaited. Two of the existing ranges in *Nellore* district were amalgamated. Sanction for the division of the present *Tirupati* range and a portion of *Madanapalle* range, *Chittoor* district into two ranges, viz., *Mamandur* and *Chamala* was accorded during the year and it is to take effect from 1st October 1916. Portions of *Gorivikanama* and *Dorigallu* reserves of *Cuddapah* district and of *Iswaramala* reserve of *Chittoor* district were transferred to *Kadiri* range of *Anantapur* district.

166. *Work of superior officers.*—Only Collectors of *Nellore* and *Chittoor* have offered remarks on their District Forest Officers and others have not. Mr. R. Ramachandra Rao, Collector of *Nellore*, remarks that Mr. Arbuthnot has worked hard and well during the year and is popular with the public. A good deal of the progress in *Kanchari* system is specially due to him. Mr. Devadasan also discharged his duties satisfactorily. Mr. H. L. Braidwood, Collector, *Chittoor*, writes as follows: "So far as I have been able to judge Mr. Sathe's work has been decidedly good."

Conservator's remarks.—Mr. T. A. Whitehead in *East Cuddapah* has worked with his usual zeal and ability. Mr. Arbuthnot in *Nellore* has done well specially in the matter of pushing the system of *Kanchari* in the district. Mr. G. Venugopala Nayudu in *Anantapur* has succeeded in tightening up the Forest Administration of

the district a good deal. Mr. D. L. Sathe although only in charge of *Chittoor* for part of the year is getting a good grasp of district work and only needs experience to enable him to develop into a thoroughly efficient officer. Mr. Raju Naicker has done his best in *West Cuddapah* wherein working plan work is now much needed. The administration in *Bellary* was characterised by inefficiency under Mr. Thornton and that in *Chingleput* cannot be commended under M.R.Ry. K. Gajaraja Mudaliyar. In *Guntūr* M.R.Ry. M. Panthapakosa Ayyar worked hard to improve the administration of a very backward district. Mr. S. V. Devadasan, M.R.Ry. K. G. Belliyappa and M.R.Ry. E. V. Padmanabha Pillai did well in their respective spheres of work during the year.

167. *Executive staff.*—The work and conduct of rangers in the circle leave much to be desired. There are some keen and good officers who conscientiously strive to do their best to carry out their duties to Government efficiently but they are exceptional to the rule but many there are, as stated in last year's report, with no interest in their profession and with no intention of doing more work than serves to keep them in the service. This is a most regrettable fact and one which, it is to be hoped, will disappear when the long overdue reorganization of this branch of the department is taken in hand and finally sanctioned. Until this has been done there is, it is to be feared, little prospect of much improvement. During the year three rangers were reduced, one was dismissed and the services of one were dispensed with and one resigned.

168. *Protective staff.*—The conduct of the staff is by no means satisfactory. Four foresters were reverted, seven were reduced, seven were suspended, seven removed from service and one resigned. Among the guards six were reduced, 63 suspended, 87 removed from service and nine resigned. The present unsatisfactory state of the Protective establishment is due partly to their poor pay and prospects, and partly to the inferiority of many of the rangers under whom they have to work. Reorganization is urgently called for with regard to this branch also.

169. *Ministerial establishment.*—The work is reported to be satisfactory in all districts except *East Cuddapah* and *Nellore*. The Conservator considers that there is much room for improvement in every District Forest office of the circle.

170. *Health of establishment and casualties.*—Health of establishment is reported to be generally good in all districts except *Bellary*. One head clerk, one second clerk, one forester and one guard of *Bellary* district, one deputy ranger and one guard in *Anantapur* died of malaria fever. Two guards were murdered and one range clerk died of drowning in a well in *Nellore* district.

171. *Relations between Revenue and Forest Officers.*—reported to be cordial throughout the circle. The Conservator considers that in some districts there is a great want of co-ordination between the two departments and that the correct relationship between Revenue and Forest Officers is in many localities not properly understood. There is much room for improvement in this matter.

172. *Service books.*—were maintained and verified in all the districts.

173. *Tours of the Forest Member.*—The Forest Member inspected a portion of forests of the *Chingleput* district and his notes of inspection were communicated in B.P. Forest No. 53, dated 10th April 1916.

Touring of the Personal Assistant to the Forest Member.—Inspected the reserves of *Bellary* and *Chingleput* districts and visited *Guntūr* district also.

174. *Conservator's inspection.*—The Conservator was on tour for 192 days. All the District offices except *Bellary* and *Anantapur* were inspected during the year. Portions of forests in *West* and *East Cuddapah*, *Nellore*, *Chingleput* and in *Chittoor* were inspected and inspection notes submitted. The offices of *Bellary* and *Anantapur* were inspected in July 1916.

175. *Touring of District Forest Officers.*—The minimum period of touring required was exceeded in all districts except *West Cuddapah* where there was a slight deficiency.

176. *Inspection of Range offices.*—All the range offices were inspected except *Nellore* range of the *Nellore* district.

177. *Audit of accounts of District Forest offices.*—The accounts of all the districts except Bellary were inspected by the Assistant Inspector of Local Fund Accounts and the general result of inspection was satisfactory.

178. *Imperial Forest College, Dehra Dun.*—No probationer was deputed from this circle during the year.

179. *The Madras Forest College, Coimbatore.*—Five deputy rangers were deputed to the college during the year. One ranger returned from college with honours certificate and three failed and one died at the college. The result was anything but satisfactory.

180. *Vernacular Training school.*—The school was held in Nellore district and twenty-seven guards underwent training. The school did good work under the instructor M.R.Ry. V. N. Seshagiri Rao and his assistant M.R.Ry. A. Ranganayukulu Nayudu and the District Forest Officer took a good deal of interest in connection with its management.

Southern
Circle.

181. The year has been fruitful in administrative changes.—

(1) The position of the Collector and District Forest Officer was completely altered by the issue of G.O. No. 260, Revenue, dated 7th February 1916. As a result of this Government Order a great deal of extra work has been thrown on the Conservator more especially in the matter of appeals.

(2) The Government have accepted in the Tiruppattur Javadis the principle that the management of cultivated lands on the hills should be vested in the District Forest Officer who will be in the same relation to the Collector as a Divisional Officer.

This principle was advocated by Mr. Cherry in 1888 for the whole of the hill forests of Salem and has from time to time received the support of Revenue and Forest Officers.

(3) The application of the principles advocated by the Forest Committee has led to somewhat revolutionary proposals in the South Arcot and Trichinopoly districts. It was decided, after tours by the Forest Commissioner, his Assistant Mr. Davis and the Conservator, that the department should gradually give up all plain forests either for cultivation or for panchayat management. As a result these two districts will eventually cease to be forest divisions, and work will be concentrated in the true forest districts of North Arcot and Salem.

(4) The control of the Forest Engineer was transferred from the Public Works Department to the Forest Department, and Mr. F. J. Marshall, the Forest Engineer of this circle, has been instructed to organise an Engineering Branch of the Forest Department.

182. *Special duty.*—Mr. E. A. Davis was placed on special duty to settle the question of further reservation in Attur taluk and as a result has proposed to reserve about 50 square miles in the Pachamalais and Kollimalais. Mr. T. N. Hearsey on special duty for "spike" investigation has made some interesting discoveries of phylloxera-like bugs which appear to be producing a phylloxy similar to spike in many kinds of trees and shrubs.

183. *Circle charge.*—Mr. P. M. Lushington was in charge of the circle throughout the year.

184. *Divisional charges.*—The bifurcation of the South Vellore division was sanctioned during the year, but the new district will not be formed till October. A revised description of the common boundary between the North and South Vellore divisions was published, transferring the sandal areas from the North to the South Vellore division.

The padugai forests on the Cauvery and Coleroon which were under the control of the Forest Department in Trichinopoly, Tanjore and South Arcot districts were transferred to the control of the Public Works Department during the year.

The Vandamalai-Rangamalai reserve was transferred from Trichinopoly to Madura.

185. *Range charges.*—The sub-division of the Tiruppattur range was sanctioned but the new range was not actually formed till 1st August 1916.

With the transfer of padugais to the Public Works Department the Kulittalai range in Trichinopoly was abolished and the Udayarpalaiyam range was amalgamated with Perambalur. The Tanjore range was abolished and the forests transferred to the Cuddalore range of the South Arcot district.

186. *Work of superior officers.*—Mr. H. A. Iatham was selected to act as Conservator of the Western Circle in April 1916. Mr. A. B. Jackson's vigour and energy in Madura have been specially commended by the Collector.

Mr. K. R. Venkatarama Ayyar has shown exceptionally good work in the heavy district of South Vellore. He was promoted to the class of Extra Deputy Conservator with effect from 1st March 1916.

Mr. C. C. Wilson was very energetic and has done much useful work in connection with working plans.

187. *Executive staff.*—The work and conduct of the rangers was generally satisfactory.

Rangers.—K. L. Muniswami Ayyar, T. G. Sankaran Nayar and A. K. Kandan have all done good work. A ranger and a deputy ranger were convicted under section 304 (a) of the Indian Penal Code. One ranger was dismissed from service for having placed himself under pecuniary obligation to a contractor. His appeal has not yet been disposed of. One ranger was reduced temporarily to deputy ranger and transferred to the Western Circle.

Deputy Rangers.—This class has now been divided into—

(1) men educationally qualified to go through the College class and become rangers;

(2) men who will have to become foresters when the deputy rangers' class is abolished. At present there is considerable difficulty in recruiting men of the first description, as forest life is not congenial to them and they are frightened of work on the Javadis, Pachamalais and other hills.

188. *Protective staff.*—The conduct of the protective staff shows little sign of improvement. There were 151 dismissals or removals, 110 suspensions and 17 reductions. Tinnevely, however, is exceptional in this respect and in Madura one guard retired on a pension. Fortunately the number of watchers employed is gradually diminishing.

189. *Ministerial establishment.*—The ministerial establishment is reported to be satisfactory.

190. *Health of establishment.*—There has been a great deal of sickness amongst rangers and one who was working in the Pachamalais and Kollimalais broke down, whilst another got seriously ill and died after the close of the year. The Javadis are responsible for a great deal of ill-health in South Vellore and the more work is concentrated in these malarious tracts, the more subordinates are likely to suffer until they have been properly housed and supplied with wholesome drinking water.

191. *Casualties.*—One guard and two watchers belonging to the Perambalur range of Trichinopoly died and one watcher in Madura.

192. *Relations between Revenue and Forest officers.*—Continued to be cordial.

193. *Service books* were maintained and verified in all districts.

194. *Conservator's inspections.*—The Conservator toured for 204 days during the year. All the districts except Madura and Tinnevely were visited and the offices of these districts inspected. Inspection notes were written for South Salem, Trichinopoly and South Arcot and for the Amerdi plantation in North Vellore.

195. *Touring of District Forest Officers.*—The touring of District Forest Officers was satisfactory. In Trichinopoly and Madura touring was short owing to ill-health of the District Forest Officers concerned.

196. *Forest Commissioner's Tours.*—The Forest Commissioner toured in South Vellore and South Arcot districts.

197. *Inspection of Range offices and sale depots.*—All the range offices in the circle except one in Tinnevely were inspected. The two sandalwood sale depots were also inspected during the year.

193. *Audit of accounts of District Forest offices.*—All districts were inspected and the accounts were declared to be satisfactory.

199. *Imperial Forest College, Dehra Dun.*—One probationer for the Provincial Forest Service was deputed to the College.

200. *Madras Forest College, Coimbatore.*—Two rangers and three deputy rangers obtained higher standard certificates. Out of the five deputy rangers deputed for the 1915-17 course, one was sent down being unable to follow the course. Two rangers and four deputy rangers have been deputed for the 1916-18 course.

201. *Vernacular Training School.*—The session of the Vernacular Training School was held in the North Salem division under the charge of Instructor, Ranger Belliappa. The course was for students from the Salem and North Arcot districts and instruction in sandal work was made a speciality.

The results were not altogether satisfactory as it was only found possible to select 26 instead of the usual 30 for deputation.

Out of 26, two had to be sent back on account of ill-health and four deserted so that only 20 passed through the full course.

Western
Circle

202. The chief feature of the year was that the Collector was relieved of purely departmental work and that the District Forest Officer was placed in a position to enable him to express his own opinion on forest matters.

Mr. C. D. McCarthy held charge of the circle up to 12th April 1916 when he proceeded on combined leave and was relieved by Mr. H. A. Latham.

203. *District charge.*—The division of the South Canara district into two forest charges designated Mangalore North and Mangalore South was brought into effect from 16th May 1916.

204. *Range charge.*—There were no changes during the year.

205. *Establishment.*—The clerks and menials for the office of the new Mangalore division and the establishment required in connection with the working of the Timber Transit Rules in South Malabar were sanctioned.

Work and Services.

206. *Superior officers.*—Collectors seem satisfied on the whole with the work of their District Forest Officers. With one or two exceptions all the superior officers (Imperial and Provincial) have worked well; in the case of some of the younger ones there is a tendency to strain at what is considered red tape. For special commendation I would mention the work of Mr. Wood for improving the timber extraction, Mr. Richmond for pushing on his fuel sales and demarcation and Mr. Bourne for work in connection with the Nilambur teak plantations in and out of office.

207. *Executive establishment.*—The work of Rangers with a few exceptions, has generally been favourably reported on. Rangers A. R. Natasimha Ayyangar, C. Saukummi and A. Nicholas are mentioned specially for good work. The Ranger whose prosecution was referred to in the last year's report was acquitted, but was punished departmentally. One Ranger was reduced to Deputy Ranger, two were suspended and reduced after the close of the year. The work of Deputy Rangers was on the whole fairly satisfactory. The services of one were dispensed with and the probation of 14 was terminated.

208. *Protective staff.*—The work of the establishment with the exception of a few Foresters continued to be far from satisfactory. *Punishments reported are—Foresters.*—The services of two were dispensed with, two were reduced and three were suspended. *Guards.*—Dismissals 14, removals from service 22, suspensions 36 and reductions 7.

209. *Ministerial establishment.*—The work of the staff in the Divisional offices was fairly satisfactory. The head clerks of the Nilgiris and South Coimbatore are commended for good work. The work of the range establishments has been fair except in one of the offices in Mangalore South where it was bad. *Punishments.*—The services of one range clerk in each of North Malabar, Central Coimbatore and South Coimbatore were dispensed with; one in Kollegal was suspended and one was reduced in Central Coimbatore. The staff in the Circle Office have worked well under the Manager, M.R.Ry. T. Ramanuja Ayyangar, a man with much experience.

210. *Health of the establishment and casualties.*—The general health of the establishment was fair in Kollegal, North Coimbatore, and South Canara, except at the foot of the ghats in the last, and bad as usual everywhere else except on the Nilgiri plateau. Two Foresters, two guards and one watcher died during the year. Several of the subordinates were granted sick leave. One Ranger retired on completion of service and one guard was invalided.

211. *Relations between Revenue and Forest Officers.*—In Kollegal there was a good deal of friction early in the year which disappeared with the transfer of the then District Forest Officer, M.R.Ry. P. Venkataramanan; otherwise relations continued to be cordial. All Range Officers in South Canara and Kollegal and one Range Officer in South Coimbatore attended the jamabandi. The District Forest Officer, Central Coimbatore, halted with one of the Revenue Divisional Officers at his jamabandi camp and both officers instructed the members of some of the panchayats about the management of the forests handed over to their control. Such attendance in Malabar was, as usual, not required and was not carried out in North Coimbatore; the non-attendance in the latter division has not been explained. The officers in the Nilgiris were in constant touch with each other. No matters of importance cropped up at any of the jamabandis.

212. *Service books.*—These are reported to have been maintained in all districts and verified up to 31st March 1916 except in the Nilgiris where they were verified up to 31st December 1915.

213. *Tours of the Forest Member.*—The Hon'ble Mr. H. F. W. Gillman toured in the divisions of Mangalore South, North Malabar, the Nilgiris and South Coimbatore. The forests of Mangalore South from which overmature timber is extracted, the demarcation work in the forests of the Nilgiris, the new district boundary between the Nilgiris and Coimbatore and the estates on the Anamalais were inspected by him.

214. *Conservator's inspection.*—Some of the forests of Mangalore South, North Malabar, the Nilgiris, Central and South Coimbatore, the teak plantations in South Malabar and all District Forest offices were inspected. All the offices were found to be generally in fair order. The number of days spent in camp was 137. The short touring so far as the writer of the report is concerned, was due to the fact that three District Forest offices at headquarters had to be inspected during the period he held charge and that he had to be present for the examinations in connection with the Forest College. His predecessor was unwell.

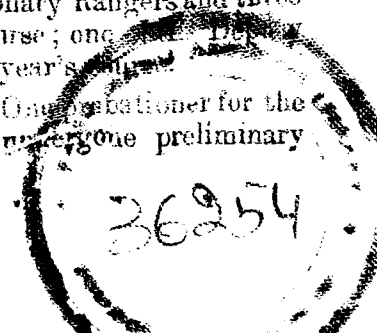
215. *Touring of District Forest Officers.*—All the District Forest Officers except South Canara and South Malabar spent in camp more than the minimum period of touring prescribed. The short touring in South Canara is ascribed to the poor health of M.R.Ry. V. Raman Menon and to Mr. Longrigg's stay at headquarters for 15 days in connection with the division of the district and in South Malabar it was due chiefly to the fact that the District Forest Officer had to spend 82 days in collecting data for the preparation of a revised working plan for and in thinning the teak plantations within the five-mile radius of his headquarters.

216. *Inspection of Range offices.*—All range offices except one in Central and two in South Coimbatore were inspected. The results are reported to be generally satisfactory with five exceptions. With the exception of the Coondapur sale depot in South Canara, all depots were inspected.

217. *Audit of accounts of District Forest Offices.*—The accounts of all the offices except South Malabar and North Coimbatore were audited by the Local Fund Audit establishment. The Assistant Accountant-General inspected also the accounts of the Kollegal office. The results are reported to be satisfactory.

218. *The Madras Forest College, Coimbatore.*—Three rangers and one Deputy Ranger passed the course taking the higher standard certificate. One probationary Ranger failed and his probation was terminated. Two probationary Rangers and three Deputy Rangers were deputed for training for the 1916-17 course; one Deputy Ranger was sent back for incapacity at the end of the first year's training.

219. *The Imperial Forest Research Institute and College.*—One probationer for the Provincial service was deputed to the College after having undergone preliminary training in North Coimbatore.



220. *The Vernacular Training School.*—Of the 28 students remaining at the close of the last session held in *Central Coimbatore*, seven secured first class and twenty-one second class certificates. This year's session was held in *North Coimbatore* and sub-divisions from the four divisions of *Coimbatore* and the *Nilgiris* were deputed for training. The strength of the school at its start was 28 of whom one died of pneumonia. Several of the men sent seemed physically unfit for the work they had to do.

CHAPTER V.—GENERAL

(a) RULES UNDER THE FOREST ACT.

Northern
Circle.

221. *Timber transit rules.*—(i) The rules are reported to have worked satisfactorily in all divisions. The District Forest Officer, *Gōdāvari Lower*, suggests that private forests in the division adjoining Government forests may be notified by the Collector under rule 4 of the model Timber Transit Rules (framed under sections 35 and 36 of the Madras Forest Act) to prevent illicit removals from Government forests under cover of permits issued by private persons.

(ii) *Rules under section 26 of the Forest Act.*—The privileges allowed by these rules were generally utilised and no complaints or abuses were brought to notice except from *Kurnool West*, where a good deal of timber was smuggled from the un-reserves in the *Terranahalai*. It is hoped that the introduction of the revised Timber Transit Rules will remedy matters.

(iii) *Rules framed for the collection and disposal of driftwood.*—The revised rules have been sanctioned and brought into force during the year in *Gōdāvari Lower* and *Upper* and *Kistna*. The lease system has again been introduced in the *Lower Gōdāvari* division.

(iv) *Rules for the guidance of Forest Officers in compounding forest offences.*—These rules worked smoothly and well in all divisions.

(v) *Rules framed under the Forest Act for private forests.*—were worked satisfactorily. The Salur estate has not made much use of the rules for constituting reserves, proposals for only one block as yet having been received. In *Jeypore* (Malkangiri range) it would appear that conservatory rules have not answered their purpose.

The management of the Madgole forests by the Court of Wards produced very satisfactory results. Provisions under section 26 of the Forest Act were extended to this estate.

The Kurupam estate proposed a number of reserves, only one of which has so far been sanctioned. In *Kistna*, rules under sections 26 and 32 of the Forest Act were sanctioned for the management of forests and waste lands in the Vaytharu estate.

(b) SUPPLY OF FOREST PRODUCT TO MEET THE WANTS OF THE PEOPLE.

222. (i) Couper in convenient localities for the supply of fuel, timber, and bamboos were generally sold to the contractor to meet the wants of the people. With the District Forest Officer, *Kurnool West*, I met representative inhabitants of Nandyal in October 1915. They represented that the selling of coupes to contractors resulted in rings being formed, but they were not prepared to go to the coupes themselves where daily retail sales were also being held. In *Gōdāvari Lower* the permit system was restricted to Rampu and unreserves under the control of the Forest Department. In *Kurnool East* agricultural implements were collected departmentally by Chenchus and sold to the public. In *Kurnool South* the exploitation of coupes was as far as possible confided to local agency so that the wants of the people may be met first. In order that the average ryot may be induced to enter into competition, lines in small sections were put up for auction and purchased locally. In *Kurnool West* the question of the supply of agricultural implements and small timber generally has been under consideration and proposals for making the supply on partly prepaid indents have been submitted to the Board. Timber and fuel felled departmentally is sold in monthly auctions at the edge of the coupe, a sufficient reserve of material being kept for sale in retail.

223. *Free removal of grass.*—This was permitted in *Vizagapatam*, *Gōdāvari Lower*, *Kistna* and the three *Kurnools*, and was freely availed of by ryots except in *Kurnool West*. No instance of abuse was brought to light. In *Kurnool South*, the village of Bachapalli was excluded from this concession as a penalty for having failed to render help in putting out fires. I hope in future to encourage further the free removal of grass by cart-loads in return for successful protection.

224. *Hill tribes.*—In *Ganjām* the assistance practically of all Khonds living adjacent to or inside the reserves was enlisted in fire and general protection of the forests. They received concessions in the way of dry fuel, grass, unclassified timber for repairing houses and minor forest produce for the assistance they had rendered. Some Khonds whose lands had lapsed into the hands of money-lenders were granted banjar lands after the tree growth above 2 feet in girth standing thereon had been auctioned. In *Vizagapatam* the hill people had no complaints against the working of the Forest laws and the privileges given to them were in no way abused. In *Downur mutta*, however, some villagers showed indifference in putting out a big fire in *Dharakonda Reserve*. The matter was enquired into and a warning was issued. In *Gōdāvari Upper*, the Koyas and Reddis did good work in clearing fire lines and in the protection of forests from fire. Special rewards for successful fire protection were distributed during the year. It is reported that both Koyas and Reddis showed an inclination to remove themselves from the division when pressed to do work on the roads now under construction, despite the fact that they admit that they are properly paid. There was, however, very little if any actual emigration as the road works were stopped to effect economy on account of the war. The District Forest Officer considers that this tendency of hill men must be kept constantly in mind with regard to the future working of the division, as extensive emigrations of the already scanty population would be a lamentable contingency to be avoided at all cost if the forests are to be protected from fire. In *Gōdāvari Lower*, the Koyas and Reddis in the Polavara and Yellavaram Divisions were employed in fire and general protection of the forests and in road and building works. They evinced considerable interest in forest matters as they were not only liberally rewarded but were allowed several concessions in return for their services. In *Kurnool East*, the conduct of the Chenchus was on the whole satisfactory. They were employed on various forest works such as collection of minor forest produce, line cutting, fire protection, preparation of agricultural implements, spokes and felloes, fashioning timber, preparing bamboo splits, collecting tangedu bark, construction of foot-paths and bridle paths and bunding up of streams. The District Forest Officer considers that in future the Chenchus will do any forest work which the ordinary village labourers without any technical skill can perform. The payment made to the Chenchus during the year for different kinds of work detailed above amounted to Rs. 19,651. In addition to it 112 men were engaged as fire-patrols, six as bungalow watchers and five as reserve watchers and the amount earned by them as wages amounted to Rs. 5,212. Thus the total amount paid to Chenchus on account of works and wages was Rs. 24,863. From this the District Forest Officer concludes "it will be apparent that the great majority of the Chenchus could not have found time to disturb the public peace and hence it is only natural to suppose that crimes must have appreciably diminished." Collector's remarks: "The sum shown as spent in payments to Chenchus is considerable, practically quarter of a lakh. As no particulars of the number of hands employed or the period of employment are given in the report, it is not possible to judge of the value of their labour or to institute a comparison from the point of view of economy, of the advantage or disadvantage of employing them rather than other class of labourers. In view of the alleged "pampering" of the Chenchus by the department it would be well to go into these matters more fully in the report. On the whole Mr. Madan has made very creditable efforts to keep his Chenchus employed, though it is doubtful whether he is not too sanguine in inferring that an appreciable decrease of crime has resulted. It may be possible to take further steps in the direction of settling the Chenchus on the land, providing plough bullocks, etc., without waiting for the final orders of Government on recommendations in Mr. Hood's report." I am entirely in accord with the Collector's views. In *Kurnool South*, the Chenchus at Ahobilam were employed on fire protection works and cultural operations. All the able-bodied men at Ahobilam, Baireni, Mahanandy and Isukagundam were as usual

employed as fire-patrols. In *Kurnool West*, the Chenchus were engaged in the plantations in other works such as felling work, rough road-making and bunding hill streams. It is expected that plantation work will come to an end in 1916-17 as further development is restricted by scarcity of water, and it is necessary therefore to find them some other occupation. The District Forest Officer states that the Chenchus seem to prefer bunding work to other employment provided that the work spot is not too far from their gudems. I am therefore recommending funds for this purpose as far as the present financial situation will permit. The District Forest Officer considers that the cultivation will be still more attractive besides being directly remunerative. As the District Forest Officer points out there is little doubt that field cultivation is the only real means of settling them and provided that this can be established without undue sacrifice of the forest, it is the object to be aimed at. Mr. Clear also says "It is proposed to grant future rewards to Chenchus for regular work throughout the year, which will include helping to put out fires. It is thought that this system will tend to discourage wilful incendiarism, as failure to turn out to extinguish fires will involve forfeiture of rewards otherwise earned by regular work. As matters stand at present the promise of rewards for fire protection alone is not sufficient to induce Chenchus to desist from their customary firing." I agree with this view. The District Forest Officer further reports that "it has been a long-established custom for the Chenchus of Nagaluti, Pecheruvu and Sriselam to collect metta fees from pilgrims attending the Sivamatri and Ugathi festivals at Sriselam in exchange for certain imaginary services performed. This year this collection was prohibited by the Police on the ground that it was blackmail. The direct result has been a recrudescence of dacoities and other crimes and Chenchus affected are now more out of hand than they have been for several years. This precipitate action is much to be regretted. Had the matter been carefully considered after attendance at the festival by responsible officers and fully discussed with the leading Chenchus there is little doubt that a satisfactory arrangement by which the practice should be discontinued from next year onwards could have been arrived at. The position is much worse now than it was before the festival and it will be a matter of considerable difficulty to regain the confidence of the Chenchus concerned. On this the Collector remarks: "The Chenchu question is pressing. The appointment of a special officer proposed by Mr. Vernon is most desirable. No orders have yet been received from Government. The attempt to stop the mettass was made without consulting me and was ill-advised. It has led to reprisals on the part of the Chenchus, particularly on the West. Mr. Clear's suggestion is sound; but the payments to the Chenchus should be made conditional not only on their doing good forest work, but on their general good behaviour refraining from crime. In the East division they have done a good deal of work for the department in splitting bamboos, etc. It does not appear whether anything of this sort has been devised in the West. It is suggested that, without waiting for orders on Mr. Hood's report as a whole, steps be taken to start them on agriculture. Another matter which should be taken up is the widening and straightening of the pilgrims path from Nagaluti. The Chenchu schools on the present lines are under."

225. *Cultivation in reserved forests.*—In *Vizagapatam* an area of 57.50 acres in Chintalapalli reserve continued to be under cultivation. This reserve was, however, handed over to the control of the Agency Revenue Department. In *Kurnool East* in addition to the land granted to the Chenchus in previous years, 5 acres were granted to a Sugali of Murikimallapenta during the year on the condition that he should help the Chenchus of that gudem with bullocks whenever required for ploughing their lands. The Chenchus of only three gudems had actually cultivated the lands granted to them. Great difficulty is felt by them in obtaining good ploughing bullocks. In *Kurnool South*, the 4 acres of land granted last year to the Police metta talaiyaris at Payulakanama were not cultivated. Twenty acres of land were assigned to the settlement of cartmen near Chelama in order to induce them to continue in the settlement since it enhances the value of all coupes in the locality besides affording convenience in the procuring of carts locally for touring or other purposes. In *Kurnool West* the lease of the two plots of land in the Gadidamadugla reserve to the Christians of that place was renewed. I should like to see all Forest Guards and Watchers, who live in the forests, provided with land to cultivate. It

would give them a stake in the beat and would render a transfer doubly penal. There are obvious and inherent difficulties, but the District Forest Officer, *Kurnool South*, has undertaken to make an attempt at Chelama.

226. *Mining and prospecting.*—A certain quantity of graphite was collected from the old Pedakonda graphite mines in *Upper Gōdāvari* and sent to the Director of Industries at his request. In *Kurnool South* the license for prospecting for diamonds in the Ramavaram reserve still continued unworked and the period of lease also terminated in December 1915. As the license attributed to the war his inability to start work, the Collector addressed the Board to extend the lease. In *Kurnool West* Messrs. Ghose and Wellar were allowed to remove small quantities of barytes from Yerramangla for experimental purposes.

227. *Realization of revenue from the usufruct of laddi-yielding trees on Government waste and poramboke lands.*—The total revenue realized was Rs. 40,019 against Rs. 31,950 in the previous year.

(c) LIVE AND DEAD STOCK.

228. *Live-stock.*—(a) *Elephants.*—All the elephants in the circle except one in *Ganjām* continued to keep fairly good health. But their condition is poor when compared with that of the Western Circle elephants engaged on hard and remunerative work. The feeding has been extravagant but a change of diet is now being tried in *Ganjām*, and I hope to introduce this into other divisions also. The local conditions of the Northern Circle render almost impossible the adequate control of the elephants by the District Forest Officer. The Board sanctioned the sale of a sick elephant in *Ganjām*; but no purchaser has yet been found.

(b) *Bullocks and buffaloes.*—In *Kurnool East* one buffalo was purchased for Rs. 20 to carry water for the Chenchus of Chintala gudem during summer. In *Kurnool South* there were ten bullocks at the commencement of the year, of which three were sold and one died, and in *Kurnool West* ten pairs of bullocks were maintained. The bullocks in *Kurnool South* were let on hire to contractors and officials.

Inventory of valuable stock.—Stock registers were maintained and verified in all the divisions. The hay press in the Direction office was transferred to the Southern Circle, Bombay.

Rain gauges.—Rain gauges were maintained and readings recorded in all divisions. In *Kurnool South* two new stations at Sandrapodu and Chintalapalli were opened. A station is required at the Tunnel bungalow, *Kurnool South*.

(d) SUE.

229. In *Gōdāvari Upper* the notice of a suit given by a late contractor in the previous year was settled by compromise. Large issues were involved and the investigation resulted in the unearthing of somewhat unsavoury past history. The appeal in the Privy Council against the settlement of the Goringa Extension in *Gōdāvari Lower* has since been decided in favour of Government.

230. *Classification of forests.*—The classification of reserved forests in all divisions except *Kurnool East* and *South* was completed.

231. *Panchayat system.*—In *Kistna* division five reserves were placed under panchayat management. The working of these reserves is reported to be satisfactory and of the remaining two unsatisfactory. Proposals for the formation of a panchayat in *Gōdāvari Lower* are pending with the Board. In *Kurnool East* proposals for forming a panchayat are pending inspection of the locality by the Collector and the Conservator. In *Ganjām* proposals for two panchayats were pending with the District Forest Officer. But it is proposed now to transfer these two areas to village forests. The District Forest Officer, *Vizagapatam*, has been requested to consider the advisability of starting panchayats in the Saravali range. Special attention will in the present year be paid to the further development of the panchayat system.

232. *Improvement of water-supply and grazing facilities in Government grazing grounds.*—In *Gōdāvari Lower* two tanks were improved and a well which was commenced last year was completed; in *Kistna* one kunda in one of the reserves under panchayat management was repaired; in *Kurnool East* two kundas and two wells were improved; besides these considerable number of forest springs were cleared and

(b) *Constitution of forest panchayats.*

247. During the year four panchayats were formed in *Anantapur*, 15 in *Guntur*, 13 in *West Cuddapah* and 19 in *Chittoor* district.

About half the panchayats are reported to be working satisfactorily. Three in *Anantapur*, five in *West Cuddapah*, one in *Nellore*, three in *Chingleput* and fourteen in *Chittoor*, the working was not satisfactory. Three panchayats were dissolved on account of mismanagement in *Chingleput* district. It is reported that in *Guntur* district with regard to some of the reserves for which assessment was fixed in Board's Proceedings Forest No. 14, dated 21st January 1916, it was found impracticable to form panchayats. Several panchayats formed in *Bellary* district were sanctioned by Board after the close of the year. The manner in which panchayats have been formed in *Bellary* district has been specially reported to the Board and in the Conservator's opinion leaves much to be desired. In paragraph 49 of the Forest Committee's report certain advice was given as to the manner in which classification of reserves should be undertaken and the following sentences close that paragraph:—

"It is observed that this classification will have to be made with great care and with full consideration of all the circumstances. Great common sense will be necessary on the part of the officers and they will have to be on their guard against an excessively professional point of view on the one hand and any tendency to excessive laxity on the other."

The Conservator considers that in some instances, owing to classification having been made too hurriedly and without due consideration on the lines recommended by the Forest Committee, the classification is not altogether satisfactory and some revisions will be necessary.

Again in paragraph 10 of Order No. 3020, Revenue, dated 18th October 1918, the Government stated as follows:—

"In many villages it would probably be difficult to find cattle owners possessed of the requisite qualifications in sufficient numbers to form a panchayat, while there would be no substitutes in case of their supersession. It would be a grave misfortune if after trial any considerable proportion of forest panchayats were found unequal to the duties assigned to them. Such a result would shake the hope that a means of relief from some unsatisfactory features of forest administration had been devised."

And in paragraph 11 of the same Government order it was stated "while there fore Government accept the Committee's proposals that an experiment should be made in the constitution of forest panchayats they consider that very great care will be necessary in selecting the villages for experiment. The Revenue Divisional Officer and the Forest Officer who are entrusted with the duty of classifying the forests should be required to examine the conditions prevailing in each forest village with special regard to their adaptability to panchayat administration." With the advice given above it is impossible to take any exception, but unfortunately in many instances it has not been followed either in the matter of classification or in the formation of Panchayats. The result is, in the Conservator's opinion, that many of the Panchayats which have been formed are doomed to almost certain failure from the very beginning. In some districts the mere fact that Reserves have been classified under Class V has "ipso facto" been deemed sufficient justification to enforce them under Panchayat management, and this, it is submitted, was not the intention of the Forest Committee and still less was it that of the Government. It is only in the hope that this dangerous course may be held up and that panchayat management may yet be given a reasonable and fair trial that the Conservator desires to bring this matter prominently to the notice of the Board and Government.

Turning now to a more pleasant branch of the subject the Conservator desires also to place prominently forward the progress which has been made in the *Nellore* district in the introduction of the "Kancha" system of grazing. With regard to all the Forest Reserves of this district the "Kancha" system is now practically in force, and in many instances the Kanchadar undertakes the protection of our "closed" areas for us in addition to the areas he is allowed to graze a limited number of cattle in for certain months of the year. The Kanchadar is in fact very often an informal panchayat itself and so rapid has the progress made been, that during the current year Government has been pleased to sanction the employment of a special "Kancha"

officer of the grade of a Deputy Collector to tour in the *Nellore* district with a view of explaining fully to the people the advantages of the system and the innovations we are gradually grafting on to the system, and so far, as far as the Conservator is able to judge, the Kancha Special officer has been doing admirably useful work with excellent results. The Collector of *Nellore* in forwarding the District Forest Officer's Administration Report for the year writes as follows:—

"Forwarded.—The year is remarkable in the results achieved by the Kancha system of grazing. Revenue has gone up: forest subordinates have been withdrawn: there has been less friction: offences have considerably declined; informal panchayats are being formed. My best thanks are due to Mr. Arbuthnot for his sympathetic initiation and ceaseless watch over the system; also to the Conservator for his ready sanction of all measures intended for the development of the policy. The system is being further developed in the current fasli.

I cannot however help noticing that the return to the public against the increased revenue is not adequate. I know the Conservator is keen on fences. Good fences are an absolute necessity for rendering the Kancha system workable. I think more attention should be paid to the putting up of good fences."

The Conservator takes this opportunity of tendering his best thanks to the Collector of *Nellore* for his unfailing advice and assistance readily and freely given for the encouragement of the Kancha system in the district. He fully agrees with paragraph 2 of the Collector's endorsement, and more money should and will be spent on fencing the Kancha areas. Unfortunately the department is so put to it for establishment that it has been so far unable to spend more on this important work during the year but that is a situation which cannot last for ever and when the long overdue re-organization of the Department is sanctioned the work will be more vigorously taken up. Meanwhile we must do our best to push on with it as best we can. Now here in this Kancha system we have the germ of a system which will, if fostered carefully, spontaneously lead to the correct panchayat system. In other districts, it appears to the Conservator, panchayats are being forced on the people when neither they nor their conditions are ripe for them. Herein lies a danger that will ruin the prospects of the system unless more care is exercised than hitherto.

(c) *Opening of fuel coupes for rural supply.*

248. Coupes have been opened wherever there is local demand and they were sold to contractors for felling. The system is working well enough, but in some localities it needs more intelligent supervision than has been given.

(d) *The patrol system.*

249. The system is still in the experimental stage and is being given a trial in all districts except *Anantapur*, *Chittoor* and *Chingleput*. The work of the patrol parties in *Guntur*, *West* and *East Cuddapah* is reported to be satisfactory.

(e) *Inducement to villagers to aid in forest conservancy.*

250. In addition to extending the "Kancha" system in *Nellore* referred to under (b), nothing more of any practical importance was done in the Circle during the year under report. In *Nellore* free removal of grass by ryots of certain adjoining villages of *Bapur*, *Udayagiri* and *Kanigiri* ranges was allowed for which they are to prevent fires spreading in the forests. In *West* and *East Cuddapah* the grazing fees for certain reserves have been raised for 1916-17 as the ryots of the adjoining villages refused to render help in putting out fires. This action is a regrettable necessity in such cases.

(f) *Improvement of water-supply and grazing facilities in Government grazing grounds (Board's Proceedings, Forest No. 125, dated 29th June 1914).*

251. In *Anantapur*, new wells were dug there in reserves and one existing well deepened. In *Guntur* as usual the graziers were allowed to repair the existing kuntas. The existing wells in *West Cuddapah* and existing ponds in *East Cuddapah* and *Nellore* were repaired. In *Chingleput* concession was granted to the ryots of *Tirumukkadu* to enter *Acharapakkam* reserve and repair the tank for the cattle. Nothing was done in the remaining two districts.

(g) Sale of plantations.

252. In *Guntūr*, 4.94 acres in Kanuparti block. If *casuarina* plantation was sold. In *East Cuddapah*, the growth in an area of 2,299 acres in Reddiapalli, Bulimari and Mittamedipalli plantations were sold. In *Madras* an extent of 100 acres in Utukur and Varini plantations, was sold during the year. In *Chittoor* a tepe of 18 acres was sold.

Southern Circle.

253. *Realization of Revenue from the usufruct of toddy-yielding trees.*—The revenue realised from this source shows an increase of Rs. 4,029 over the previous year due to the enhancement of fees (B.P. Forest No. 184, dated 17th August 1914). The fixed fee system continued to be in force except in *Tinnevely* and *Madura*. In *South Salem* the usufruct of trees not taken up under the fixed fee system was as usual leased out and a sum of Rs. 3,099 was realised against Rs. 3,276 in the previous year.

254. *Measures adopted to encourage the growth of manure-leaf yielding trees and shrubs.*—No operations for the growing of manure-leaf yielding species were undertaken by the department during the year. This is however a matter of great importance for the Forest Department in this Circle. In spite of large areas of ourselves in the *Attūr* taluk the forests of the *Kalrayens*, *Pachamalais* and *Kollimalais* are still being subjected to the depredations of manure-leaf cutters which is fatal to their use as conservation forests. *Daincha* has been established successfully in some villages in *South Salem* and the more this can be encouraged the better is the department served. In addition the *Tephrosia Purpurea*, one of the most valuable of the green manures, is found in large quantities in the dry fields at the base of the *Pachamalais* and *Kollimalais*. The department cannot afford to be apathetic in this matter and it is therefore a matter for regret that the reports from *South Salem* and *Trichinopoly* have practically nothing of any value as to the steps taken to bring this to the notice of the ryots. If such cultivation is improved and extended there is no doubt that the forests will be relieved of an enormous burden which they ought not to be compelled to bear.

In *North Salem* the manure-leaf farm at *Giddagarampatti* (50 acres) was leased for Rs. 33.

255. *Grant of cowles for the formation of casuarina plantations in sandy areas.*—Nil. The planting of *casuarina* on an extensive scale continues in the disafforested lands in *South Arcot*.

256. *Cultivation in reserved forests.*—Previous year's leases were renewed in *South Vellore*, *North* and *South Salem* and *Trichinopoly*. In *Madura* the lands of the *Palnis* continue to be cultivated under muchilikas with cardamom and in some cases coffee plantations.

257. *Improvement of water-supply in State forests.*—Considerable progress was made in *North Vellore*. Twenty old wells were improved at a cost of Rs. 609 and the *Gillman Bhavi* in *Synagunta* reserve completed for Rs. 83. The streams in five different reserves were bunded at a cost of Rs. 485.

In *South Vellore* the Director of Industries is carrying out boring operations with a view to the introduction of "Tube Wells." The introduction of these wells may go far towards the improvement of the drinking water-supply and in consequence the reduction of fever on the *Javadis*.

In *North Salem* tanks in the *Jowlagiri* and *Thally* grazing blocks were repaired, but in the case of five other tanks repairs could not be completed.

A water-trough was constructed in the *Morappur* reserve.

No progress in this matter was made in other districts and it is evident that this important matter deserves more attention.

258. *Supply of forest produce to meet the wants of the people.*—Under the contract system in force, contractors are bound by their agreements to supply the wants of the people at reasonable rates. The issue of permits at seigniorage rates for babul trees for agricultural implements was continued in *Tinnevely*.

259. *Sale of fuel at the edge of forests.*—This was generally attended to by local contractors. The fuel felled departmentally in the *Musiri* range of *Trichinopoly* district was disposed of at the edge of the forest.

de for the transfer of sale depots to private agency.—The contract system is universal and contractors have opened depots in almost all the important towns.

261. *Free removal of grass.*—This has been alluded to in paragraph 122 supra. The concession was as usual largely availed of in *North Vellore*. In *South Vellore* free removal was permitted from December to February.

262. *Hill tribes.*—As usual our dealings with the *Malayalis* in the *Chitteris* of *South Salem* and in the *Javadis* of *North* and *South Vellore* have been successful and they have given the department valuable assistance in fire protection as also the protection of sandal. It is a very satisfactory feature of the *South Vellore* administration that the District Forest Officer is able to report that on the *Javadis* goats have been sold off in hundreds and the Collector of the district is able to add his testimony as to the tactful treatment of the hill men by the District Forest Officer.

A great deal however still remains to be done as in *South Salem* the *Malayalis* of the *Kalrayens*, influenced by jaghirdars, have taken to smuggling sandal into *South Arcot*. In the *Pachamalais* and *Kollimalais* of *South Salem* and *Trichinopoly* very insufficient attention has been paid to this matter. Thousands of sandal trees have been destroyed by the pernicious system of ponnakad cultivation and although an occasional *Malayali* has been engaged as a guard or watcher no regular attempts have been made to win over the hill men to assist in protection. On the other hand the *Malayalis* have been prosecuted for ponnakad in no less than eighteen cases.

These hills have however recently been inspected by the Forest Commissioner and the Conservator and it is to be hoped that a more suitable method of dealing with the hill-men may shortly be instituted.

In *Tinnevely* the attempt to make a *Palayar* settlement in *Srivilliputtūr* range failed and the settlement was deserted. The *Kani* settlement near *Kariar* was not extended.

263. *Prospecting licenses.*—No license was granted during the year. In *South Vellore* *Messrs. Gaudart & Co.* of *Pondicherry* applied for a license for prospecting for minerals in the *Ponniar* reserve and the Collector has been addressed for the grant of a license. In *South Salem* *Mr. H. W. Perry*, Late Acting Deputy Traffic Manager, *South Indian Railway*, was granted permission to explore in the reserves of the district.

264. *Timber and sandalwood transit rules.*—The rules are reported to have worked satisfactorily during the year. In *South Salem* no property mark was registered, but three cases were charged for the infringement of the sandalwood transit rules. In *Trichinopoly* out of three applications for the registration of property marks one was registered, one is under enquiry and the third was rejected.

265. *Rules under sections 26 and 32 of the Forest Act.*—The rules continued to work satisfactorily and the privileges were generally availed of without any complaint. It is reported from *North Salem* that to a small extent there has been abuse of the concession in the cutting of classified trees.

The application of the *Zamindar* of *Seitur*, guardian to the minor *Zamindar* of *Elumalai*, referred to in the last year's report was disposed of by extending the rules under section 26 of the Act to the forest and waste lands in the *Elumalai* *Zamindari*.

266. *Control of unreserves by the Forest Department.*—The entire transfer of the *Land Revenue* administration of the *Puliyur* and *Kambugudi* enclosures on the *Javadis* in the *Thirupattūr* taluk was proposed during the year and is pending final orders of Government.

267. *Rules regarding the levy of composition fees.*—The rules were attended to in fixing the composition fees.

268. *Arrangements made in holding the villagers adjacent to particular forests responsible for the protection of those forests by dividing the village and blocks of forests concerned.*—In *South Vellore* plans showing areas assigned to each *Javadi* hamlet for special protection by the *Malayalis* resident in those hamlets were prepared during the year for a considerable portion of the *Javadis*.

In regard to the rest of the district a notification was published towards the close of the year with the approval of the Collector defining the villages that will be held responsible for forest offences on any large scale, in definite areas of forests adjoining their villages. In other divisions little has been done in this direction.

LIVE AND DEAD STOCK.

269. *Inventory of valuable stock.*—Stock registers were maintained in all districts and verified at inspections. The total value of the dead stock in the Circle at the end of the year was Rs. 4,32,153.

270. *Rain gauges.*—Readings were recorded in all the rain gauge stations.

271. *Specimens.*—Toys, walking sticks, pencils and sandalwood specimens were sent from North and South Vellore and Trichinopoly to the Madras Park Fair Exhibition.

Madura sent a specimen of *Zizyphus Xylopyra* dye to the Director of Industries and three pine specimens to the Principal of the Engineering College to be tested. Some herbarium specimens were sent to the Gass Museum and to the Forest Botanist.

Specimens of sandalwood from South Vellore, North and South Salem were despatched to the Forest Chemist at Dehra Dun for determination of their oil value.

PREVIOUS YEAR'S SUITS.

272. *North Vellore.*—The boundary dispute in Gundalapalle reserve is still pending.

South Arcot.—The suit filed by a coupe contractor in the Tanjore district referred to in the last year's report was dismissed with costs.

Trichinopoly.—The appeal preferred by Arunachela Reddi to the High Court and the suit filed by the Kulitalai pattadar are still pending.

Madura.—The suit filed by a tank-bed contractor was decided against Government and an appeal preferred to the District Court.

Tinnevely.—The Kuttalam water fall appeal is still pending in the Privy Council.

NEW SUITS.

273. *South Salem.*—The question of the ownership of the range of hills known as the Neiyamalais and the adjoining hill and valley in the Salem and Attūr taluks is pending enquiry by the Revenue Divisional officer, Salem, who has been appointed as a survey officer for the adjudication of the claims of Government and the Mittadar of Sokkadipatti.

FOREST COMMITTEE'S REPORT.

274. *Classification of reserves.*—The classification of reserves is practically complete in this circle. In South Arcot the Collector is considering the reclassification of some of the reserves and in South Salem the final classification was submitted shortly after the close of the year.

Panchayat system.—The progress in panchayats has not been very satisfactory. Many mistakes were made at the start such as handing over portions of a reserve to panchayats, failure to collect assessments and mistakes in the area handed over. These are by degrees being rectified. There has moreover been no keenness on the part of graziers to undertake management.

In addition to those of last year, panchayats for three reserves in South Arcot, one reserve in South Salem and six reserves in Trichinopoly have been formed.

The South Arcot panchayats are said to be run at a loss but an examination of their accounts shows that no trouble is taken to collect grazing fees.

The patrol system.—The system was continued in North Vellore, South Arcot and South Salem but it cannot be pronounced to be successful on account of the paucity of establishment.

275. *Realization of revenue from the usufruct of toddy-yielding trees, etc.*—Rupees 1,203 were realized in South Canara against Rs. 1,531 in the previous year. Some small amounts were realized in Kollegal and Central Coimbatore. The right to extract toddy from palmyras in the forests of one of the ranges in South Coimbatore, was leased out for three years at Rs. 60 per annum. There were no receipts in other districts.

276. *Measures adopted to encourage the growth of manure-leaf-yielding trees and shrubs.*—No action was taken in this direction nor was any required as the demand was met from other than reserved forests and lands.

277. *Supply of forest produce to meet the wants of the people.*—As in previous years the people in South Canara were allowed to remove grass free from reserved forests for thatching and fodder. This concession was not abused. Timber was also retailed from one of the depots. The private forests and unreserved lands supply the wants in Malabar. In the Nilgiris the issue of permits for small timber, fuel, bamboos, etc., was continued. The Badagas got their fuel at the usual nominal fee of Re. 1 a house for the year. The removal of brushwood at one anna per head load from the coupes under working was allowed. The attempt to sell firewood to the poor cheaper than the usual selling rate was abandoned as it was found that the fuel so purchased was being sold at the market-rate outside the depot. The departmental supply of fuel to the public at Ootacamund and Coonoor was further developed and a large quantity was disposed of. Firewood and charcoal were also sold in retail in depots. Kollegal—Contractors purchased fuel from the department and retailed in depots opened in Kollegal town; the people elsewhere got their requirements from unreserved lands. In the other divisions of Coimbatore the supply of forest produce was left to contractors and there were no complaints. Small timber and agricultural implements were retailed from forest depots in the North division and brake poles were sold to the cartmen frequenting the ghat roads in the North and South divisions. The removal of brushwood in head loads from coupes under working was continued in the Central division.

278. (a) *The working of the forest panchayats.*—No new panchayat was approved during the year. The areas managed by panchayats are given below:—

District.	Number of reserved forests managed by panchayats.	Area in acres.	Assessment imposed.	Number of panchayats managing the areas.
Mangalore, North	1	89.34	Rs. 1,074	1
Central Coimbatore	7	4,123.08	185	12
South Coimbatore	4	1,874.54	155	2
Total	12	5,386.96	1,259	15

Besides the above, some areas of unreserved lands (extent not reported) in Mangalore, North, and North Coimbatore were also under such management. In Mangalore, North, the panchayat discharged its functions satisfactorily and the forest has not in any way deteriorated. In Central Coimbatore, four of the reserves were overgrazed. Ten of the panchayats took an interest in their duties and carried out works of improvement, chiefly removal of prickly-pear and sowing grass seeds; the defaulters were the panchayats in charge of the Arachalur and Tambikalayam reserves. In South Coimbatore, the members of the panchayat for Udiyur forest failed to realize their responsibilities and the management was unsatisfactory. The panchayat for the other four reserves carried out repairs to a cart-track and cleared prickly-pear from portions of two reserves. Regular accounts for receipts and expenditure were not maintained by the two panchayats. The management of the unreserved lands in North Coimbatore is well reported on.

(b) *Opening of small coupes for rural supply wherever an effective demand exists or can be stimulated into existence.*—There is no demand for such coupes as the demand is met from coupes sold to contractors and other sources.

(c) *Measures adopted for improving the water-supply in Government grazing grounds and the facilities for grazing and pasturage.*—No measures are necessary in the West Coast districts and in the Nilgiris. Nothing was done in Kollegal and North

ADMINISTRATION REPORT OF THE MADRAS FOREST COLLEGE, COIMBATORE, FOR THE YEAR 1915-16.

CHAPTER I.—CONSTITUTION.

(1) Staff.

1. The office of Principal was held by Mr. F. L. C. Cowley-Brown from the beginning of the year up to the 11th September 1915 and thereafter by Mr. C. E. C. Fischer, Deputy Conservator of Forests.

2. Messrs. C. B. Dawson and H. C. Bennett, Deputy Conservators of Forests, filled the posts of senior and junior imperial instructors throughout the year.

3. M.R.Ry. K. R. Venkatramanan Avargal, Extra Assistant Conservator, remained the senior provincial instructor up to the 15th July when he proceeded on privilege leave and eventually reverted to district work, after three years of work at the college which have met with the special recognition of the Principal under whose orders he served. He was replaced by Mr. E. M. Crothers, Extra Assistant Conservator.

Mr. J. Aranha, Probationary Extra Assistant Conservator, was the second provincial instructor up to the 19th October, when, on his transfer to the Nilgiris district, Mr. R. B. Cornwell, Extra Assistant Conservator, took up that post.

4. M.R.Ry. C. Srinivasa Rao, B.A., the Curator of the Gase Forest Museum, lectured on Botany and Science up to October; under the orders of Government he severed his connection with the teaching work of the college from November 1915. The lecturing in these two subjects had thereafter to be undertaken by the remaining members of the staff; an unsatisfactory arrangement which, it is hoped, will be remedied before long.

5. One post of Sub-Assistant Surgeon remained vacant throughout the year owing to military exigencies.

The other post was filled by—

M.R.Ry. T. S. Piebu Ayyar from 1st July to 15th September,

M.R.Ry. T. R. Srinivasa Ayyangar from 16th September to 2nd January, and

M.R.Ry. V. M. Ramunni Nayar from 9th January to the end of the year.

These officers lectured on first aid to the senior students.

6. Instruction in drill was given throughout the year by the two Havildars attached to the college.

Instruction in gymnastics could not be commenced during the year for lack of apparatus. Apparatus has since been set up and instruction started with the current session.

7. The Principal has no specific course of lectures and it is very undesirable that he should lecture regularly. He took special lectures on Botany for a short period when on tour and lectured to the senior students in working-plans during the ten days Mr. Bennett was in camp with the juniors in September, and again took all Mr. Bennett's lectures for a week in May. He also gave a few other special lectures.

In addition the Principal delivered a set of five lectures on Forestry in its connection with agriculture to the senior students of the Agricultural College.

(2) Board of Visitors.

8. Mr. F. L. C. Cowley-Brown on leaving the College staff became Conservator of Forests, Northern Circle, vice Mr. A. W. Lushington retired, and joined the Board of Visitors of the college. During the year Messrs. C. D. McCarthy and S. Cox proceeded on leave and Messrs. H. B. Bryant and H. A. Latham took their places on the Board.

The Board met on two occasions at Coimbatore on the 15th October 1915 and on the 25th June 1916.

(3) Students.

9. The year began with 66 students, 30 of the 1914-16 division beginning their second year and 36 of the 1915-17 division who entered the college on the 29th July 1915.

At the close of the year the numbers had been reduced to 29 and 31, respectively, or a total of 60. The reduction in the case of the seniors is due to the death of one student in March, and in the case of the juniors to four students being sent down in December as unfit for training and to one being dismissed in May for deliberate and gross disobedience.

Two more of the junior students were removed for unfitness for further training at the close of the year so that the 1915-17 division started their second year 29 strong.

CHAPTER II.—SCHOLASTIC RESULTS.

10. Twenty-nine students completed the two-years course in June 1916 and passed out of the college.

The following list shows for each man the certificate obtained, the order of merit and whether a British Government, Native State or private student:—

Name of student.	Honours	Name of circle or State to which attached.
1. O. M. Kunhiraman Nayar	...	Central Circle.
<i>Higher Standard.</i>		
2. T. E. Varada Achari	...	Northern Circle.
3. T. K. Parameswaram Pillai	...	Travancore State.
4. Kerala Varma Tambiran	...	Do.
5. D. Krishna Ayyangar	...	Do.
6. C. T. Thiravengadam	...	Northern Circle.
7. M. N. Raman Pillai	...	Private.
8. P. A. Krishnaaswami Mudaliyar	...	Southern Circle.
9. S. Srinivasa Rao	...	Western Circle.
10. K. Kunhirovan	...	Do.
11. A. Swami Kutty	...	Do.
12. S. V. Sigbatullohi	...	Southern Circle.
13. O. H. Ashe	...	Do.
14. G. Devanayagam Nayadu	...	Do.
15. Korah Fonn	...	Cochin State.
16. Syed Manavar	...	Southern Circle.
17. B. Sambamurthi	...	Private.
18. A. P. Srinivasa Ayyangar	...	Western Circle.
<i>Lower Standard.</i>		
19. W. Balakrishna Mudaliyar	...	Northern Circle.
20. K. Baghava Rao	...	Do.
21. Gulam Rassool	...	Mysore State.
22. K. Ramachendriah	...	Travancore State.
23. T. S. Narayanaswami Chetti	...	Private.
<i>Failed.</i>		
24. M. Krishna Ayyar	...	Central Circle.
25. P. Krishnan	...	Western "
26. K. G. Sundaraja Rao	...	Central "
27. T. R. Naganatha Ayyar	...	Private.
28. K. T. Venkatachar	...	Northern Circle.
29. K. G. Srinivasa Rao	...	Central "

11. A very considerable change was caused by the elimination of grace marks. In the past two years grace marks up to a maximum of 500 were awarded to each student and added to his total marks which assisted him in some cases to obtain the next higher standard. The average number of marks so allotted were 419 and 444 in the two previous years, respectively. During the year under review, under the orders of Government, the grace marks were reduced to a maximum of 250 and no longer count in any way towards the marks necessary for qualification for the several certificates.

This affected very materially the number of honours certificates. Actually only one student earned this certificate, whereas with the assistance of 250 grace marks two more students would have obtained honours.

12. For the first time there were failures to qualify for any certificate and no less than six students left the college without a certificate of any kind.

The allotment of grace marks would not have affected this result since all failed to obtain pass marks in two or more of the major subjects, whereas grace marks were only added to the aggregate marks and not to the marks for individual subjects.

The failures can be ascribed only to the low standard of intelligence and previous education of the students who failed and point to the necessity for increased severity in removing students unfit for training before the second year of their training.

13. It is noteworthy that the single honours certificate was gained by a British Government student and that again the Travancore State students as a whole did well.

14. The prizes were awarded as follows :—

	1. Best student in Senior class.
	2. Do. in Forestry.
	3. Do. in Survey.
(1) C. M. Kuchicaman Nayar	4. For Honours.
	5. Campbell Walker.
	6. Lodge.
	7. Indian Forester.
(2) T. E. Varadachari	1. Best student in Range Administration.
	2. Do. in Engineering.
(3) K. Kunhiroyan	1. Brazier.
(4) S. Ramachandra Ayyar	1. Best student of Junior class.

15. All the twenty-nine students of the 1914—1916 division were examined in first aid by the District Medical and Sanitary Officer, Coimbatore, and his assistants. Twenty were successful in obtaining the certificate of the St. John's Ambulance Association.

The value of the instruction in first aid was practically demonstrated in several cases, notably when a player in a football match had the misfortune to dislocate his knee joint. One of the students very promptly and efficiently replaced the joint with a "click" which was much appreciated by the audience.

16. The 1914—1916 students were examined in drill by Mr. F. L. C. Cowley-Brown with satisfactory results. Emulating their immediate successors they learnt physical drill under the instruction of one of their members—K. Kunhiroyan, a former member of the late Moplah regiment of the Madras Army—and gave a demonstration before the Board of Visitors.

17. The final examinations in all the subjects were held by outside examiners and in the oral examinations one member of the Board of Visitors presided. The reports of the examiners are unanimous in regard to the generally low standard of intelligence and education of the students of the 1914—1916 division and the desirability of greater strictness in selection has been impressed on the Conservators.

Several valuable suggestions have been made by the examiners and these will be adopted as far as possible in future.

CHAPTER III.—ADMINISTRATION.

(a) Board of Visitors.

18. The Board of Visitors assembled twice during the year at Coimbatore: on the 15th October, taking the opportunity of the formal opening of the new college buildings by His Excellency the Governor, and on the 28th June after the final examinations had been held.

19. At the first meeting the following subjects were discussed :—

(i) *The Government memorandum passing orders on the draft calendar.*—The calendar was further revised and after final approval of Government was published in March 1916. It still lacks a good index and this will be provided in the 1916 edition.

(ii) *The estimate for laying out an athletic ground at the college.*—I am very sceptical as to the possibility of laying out a satisfactory ground without prohibitive expenditure. The whole matter is still pending with the Public Works Department and no active step towards an athletic ground had been taken by the end of the year.

(iii) *Allotment of studentships for the 1916—18 course.*—Final orders of Government have now been issued and the following students were admitted on 29th July 1916 :—

	Northern Circle	...	...	...	...	6
	Central	"	...	...	...	5
British Government	Southern	"	...	...	...	8
	Western	"	...	...	...	6
Hyderabad State	...	...	...	...	...	2
Mysore State	...	...	...	...	...	1
Travancore State	...	...	...	...	...	2
Government of Ceylon	...	...	...	...	...	2
" of Coorg	...	...	...	...	...	1
Private	...	...	...	...	...	3
						—
	Total	...	...	...	...	34
						—

(iv) *Provision of a swimming bath and a carriage shelter.*—The Board of Visitors considered that the former should be deferred and that the latter is necessary. Government, however, ordered that the carriage shelter could not be sanctioned under the present financial conditions.

(v) *The supply of a human skeleton at the Museum.*—This was approved, and one has been purchased and set up.

(vi) *The period of retention of Instructors' reports on students.*—It was decided that such reports need not be preserved and they are now destroyed as soon as they are no longer required.

(vii) *The preparation of Manuals of Sylviculture and Range Administration.*—These are now under preparation by Mr. R. D. Richmond, Deputy Conservator of Forests, and M.R.Ry. K. R. Venkatramana Ayyar, Extra Deputy Conservator of Forests, respectively.

(viii) *Advisability of refusing admission to the college to candidates who had not yet accepted their bonds.*—It was decided that rule 17 of the College rules should be rigidly enforced. Happily there was no necessity to refuse admission to any student of the incoming year.

At the meeting in June, besides the results of the examinations and the allotment of medals, the following points were considered :—

(i) *The revised tour programme.*—The programme for 1915—16 which gave a continuous tour of six months with only one break at Christmas was admitted to be unsatisfactory and the Principal was directed to devise a fresh programme. The programme for 1916—17 submitted by the Principal was approved and it was recommended that it should not be departed from for a period of three years.

(ii) *Advance to students for the purchase of bicycles.*—This was not supported by the Board of Visitors; but they consider that every student should provide himself with a bicycle before joining the college. The majority of the 1916—18 students came provided with bicycles and for the few remaining arrangements were made for them to obtain bicycles on easy terms.

(iii) *Grace marks.*—The Board did not approve of the proposal to allot grace marks for special attentiveness and activity.

(iv) *College blocks.*—Definite orders were given regarding the management of these blocks on points which were not clear hitherto and they will be taken over during the current year.

20. During the year the orders of Government were received on the proposals made at the Board of Visitors meeting of 28th June and 2nd July 1915. The principal points were as follows :—

(i) It was ordered that Mr. C. Srinivasa Rao should no longer remain on the lecturing staff.

- (ii) The maintenance of the college estate and petty repairs to buildings was transferred to the Principal, subject to a maximum annual expenditure of Rs. 2,500.
- (iii) The House Tutor is granted quarters rent free.

(b) *Touring.*

21. The following programme of touring was carried out during the year:—

Dates.	1914-15 Division.	1915-17 Division.
15th to 25th September	Schoolur and Nedungayam	At Bolampatti.
1st November to 27th November	Mount Stuart.	Nilambur and Nedungayam
28th November to Christmas holidays	Wangyar	and 2 days in Calicut.
4th January to 26th January	Jayanthi Hills	Mount Stuart
27th January to 3rd March	At Bolampatti	Kochad camp
4th March to 26th March	At Bolampatti	At Bolampatti
1st April to 1st May	At Bolampatti	At Bolampatti

The time taken to move from one camp to another has been included in the camp to which the move was made.

22. As far as possible works useful to the districts were carried out at each camp; but this motive was kept subordinate to the more important object in view, viz. that the work should be instructive to the students. The one exception was at Koruttiyery, where, owing to a misunderstanding, marking in a sandal coupe was persisted in long after the instructional value of the work had ceased.

23. All work done is carefully recorded in the College journals and all observations made and points of interest or importance to the district are communicated to the District Forest Officer soon after leaving the district.

Thanks are due to the District Forest Officers of the districts visited and to their subordinates for their co-operation and assistance, especially to Messrs. Richmond (The Nilgiris), Barry (Tinnivelly) and K. R. Venkatramana Ayyar (South Vellore), who gave much personal assistance and whose arrangements were excellent.

(c) *Health.*

24. On the whole the season was unfavourable from the point of view of health, especially with regard to malaria. Practically every student was prostrated at one time or another by this disease. The touring season began badly with very heavy unseasonable rain in South Malabar and, probably, the foundation of future ill-health was laid here. At Mount Stuart, on the other hand, the dry season came early and the visit of the junior division at the close of the working season (in January) was into the fever period.

25. One senior student, owing to inordinate exertion, unconnected with any College function, brought out malaria lurking in his system in a malignant form which caused his absence from the field and from lectures on frequent occasions during January, February and March. The frequent bouts of fever lowered his vitality so that when he contracted pneumonia, in the second half of March, his system was unable to make a stand and he succumbed very rapidly. On the 15th evening he was apparently well and participated in a game of football. He was prostrated with fever on the 17th and as he was not improving he was sent in to the Coimbatore hospital by cart (20 miles) on the 18th. Pneumonia, though not then suspected, was incipient. It developed very rapidly during the journey and was acute on his arrival at the Municipal hospital late at night. He died in the early hours of the 20th in spite of every care.

In addition to a few cases treated at the Municipal hospital, Coimbatore, or at one of the hospitals near the College camp when on tour, 996 cases were treated by the Sub-Assistant Surgeon attached to the College or by his assistant.

The cases are classified as follows:—

(1) Malarial fever	360
(2) Digestive system, i.e., diarrhoea, dysentery, gastritis, etc.	158
(3) Respiratory system, i.e., catarrh, laryngitis, etc.	115
(4) Wounds, contusions, sprains, etc.	105
(5) Miscellaneous, headaches, eye trouble, teeth, etc.	258

26. The present Sub-Assistant Surgeon Mr. V. M. Ramunni Nair has done his work well and zealously.

Until a second sub-assistant surgeon can be spared, some professional assistance required in camp for one of the divisions and the services of a qualified compounder have been asked for recently. At present the sub-assistant surgeon accompanies the division which is camping where permanent medical assistance is most difficult to obtain and the dispensary lascar attends at the other camp.

(d) *Conduct.*

27. With one exception there were no serious cases of misconduct deserving more than trifling punishments in the shape of fine or a few grace marks.

The one case referred to was that of a junior student who left the college camp at Kumbakonam for his home in Kumbakonam, not only without permission, but in disobedience of definite special orders. For three weeks nothing was heard of him.

After consulting the members of the staff the Principal removed the defaulting student from the college.

28. The staff has worked hard and very efficiently, frequently under circumstances of considerable discomfort and stress.

29. The clerical establishment has worked hard and such defects as have obtruded themselves are due to inexperience, incapacity and want of method rather than to unwillingness or wantonness.

30. The menial staff is far from satisfactory and its members take every advantage of the lack of control during the absence of all authority when the staff is on tour.

The low pay coupled with the situation of the college, far removed from the "bazaar", gives no hope of any improvement in the future.

31. This holds good particularly with regard to the care and improvement of the grounds and the arboretum. During the absence of the staff on tour the gardeners grossly neglected the avenue and hedge plants and a large number of them died. Being low-paid posts no skilled gardeners can be employed and for want of immediate supervision every operation is done in a wrong and negligent manner. The pruning of avenue trees cannot be left to them and what has been done so far has been done in person by the Principal and his wife.

So long as this state of things continues the College estate must continue to present the appearance of a desolate waste, which is in no way toned down by the building rubbish left here and there by the Public Works Department.

32. A further difficulty is the want of water. The present well and engine can only just meet the requirements of the staff and students during the hot weather, so that the supply from this source for watering purposes has to be cut off just at the time when it is most urgently required.

Sanction for the erection of a wind-driven pump over the arboretum well has been granted and this disability will disappear when this pump is in working order.

CHAPTER IV.—THE GASS MUSEUM.

33. The transfer of the museum to the new site was not completed until the transfer of the college itself, though it had been begun in the previous year. A vast quantity of material had to be transported and re-arranged in the new building and this absorbed the energies of the Curator and Assistant Curator, Mr. Azizuddin, until well on in December. The Assistant Curator's post was then terminated and he reverted to his permanent post at the Agricultural college.

34. Mr. C. Srinivasa Rao, the Curator, arranged for the transport of the large mass of exhibits that were sent to Madras for the Industrial Exhibition held there in January and himself went to Madras to assist the Superintendent of the Forestry section in arranging them and subsequently in restoring them to the museum. Both at Coimbatore and Madras he worked very hard and efficiently.

35. He went on leave on 4th March 1916 and was posted from leave as ranger, fourth grade, to the North Coimbatore Forest division. It was not until the 8th May that a new Curator, Mr. G. Viswanathan, took charge of the museum and during the interval one of the clerks of the Principal's office acted as Curator.

Madras Forest College, Coimbatore

SUMMARY of revenue and expenditure for the forest year 1915-16.

Head of service.	Amount.			
	RS. A. P.			
	<i>Revenue.</i>			
I (a)	10	0	0	
I (d)	25	0	0	
V (a)	0	4	0	
V (b)	1,669	10	11	
Total ...	1,704	14	11	

Expenditure A.—Conservancy and works.

A (vi) (c)	4,821	4	6	
A (vii) (a)	15	10	0	
A (viii) (e)	628	10	4	
A (viii) (g)	316	3	1	
A (ix) (b)	2,732	10	11	
Total ...	8,514	6	10	

B.—Establishment and contingencies.

B (i) (b)	50,069	9	5	
B (i) (c)	26,563	7	0	
B (i) (d)	2,579	3	9	
B (i) (d) (t)	727	10	10	
B (ii) (b)	5,535	11	4	
B (ii) (c)	2,209	13	0	
B (ii) (d)	534	10	6	
B (iii) (b) (1)	325	0	8	
B (iii) (b) (2)	7,833	10	6	
Total ...	96,378	13	0	

Grand total of A and B ... 1,04,893 3 10

ABSTRACT showing the stock of stores, tools, etc., for the year ending 30th June 1916.

District.	Description of stock.	On hand at commencement of the year (from 1st July 1915).		On hand at the end of the year (up to 30th June 1916).		Difference in value in favour of the year.	Difference in value against the year.
		Number.	Amount.	Number.	Amount.		
			RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
	Surveying and other instruments.	1,151	6,944 13 9	1,169	7,813 13 11	869 0 2	..
	Tools	405	815 5 10	429	840 5 8	24 15 5	..
	Furniture	460	2,850 13 5	1,661	27,955 1 9	25,104 4 4	..
	Tents	115	11,271 2 3	163	11,876 10 3	605 8 0	..
	Uniforms and accoutrements.	308	828 6 11	76	190 0 0	..	638 6 11
	Science apparatus and chemicals.	4,074	3,120 2 0	3,040	3,249 5 0	129 3 0	..
	Photographic instruments.	2	604 8 0	9	612 4 0	7 12 0	..
	Gymnasium apparatus.	..	..	9	478 0 0	478 0 0	..
	Miscellaneous ..	487	1,737 1 9	1,674	2,423 4 0	686 2 3	..
	Total ..	7,002	28,172 5 11	9,128	55,438 12 2	27,264 13 2	638 6 11

* Supplied by Public Works Department at new College building.

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APPENDICES.

APPENDIX A.—Comparative statement of number and origin of fires that occurred during 1915-16.

[illegible]

Helary	..	..	76,867
Guntar	..	..	2,761
Cuddapah, West	..	..	1,989
Cuddapah, East	..	..	58,074
Total	..	2	138,971

Appendix A.—Comparative statement of number and origin of fires that occurred during 1915-16—cont.

District.	C. Fires beginning inside the reserves or fire-tuned areas.										Total of A, B and C and cases unknown.
	By intention of forest.					By intention of forest.					Total.
	By accident or through carelessness in burning fire lines.	By fires entered by creating exterior fire lines.	By workmen employed in the forests by the forest department.	By village people through the forests.	By railway engines.	By lightning or by fire from the forest.	By accident or through carelessness in burning fire lines.	By fires entered by creating exterior fire lines.	By workmen employed in the forests by the forest department.	By village people through the forests.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Southern Circle.											
North Vellore	..	..	..	..	..	..	..	..	..	..	..
South do.	..	..	..	..	..	..	..	..	..	..	..
North Arcot	..	..	..	..	..	..	..	..	..	..	..
South Arcot	..	..	..	..	..	..	..	..	..	..	..
North Salem	..	..	..	..	..	..	..	..	..	..	..
South do.	..	..	..	..	..	..	..	..	..	..	..
Trichinopoly	..	..	..	..	..	..	..	..	..	..	..
Madura	..	..	..	..	..	..	..	..	..	..	..
Tinnevely	..	..	..	..	..	..	..	..	..	..	..
Total	3	34	66	7,188	6	47	62	4,273	2	3	607
Western Circle.											
Mangalore, North	..	..	..	..	..	..	..	..	..	..	..
Do. South	..	..	..	..	..	..	..	..	..	..	..
Malabar, North	..	..	..	..	..	..	..	..	..	..	..
Do. South	..	..	..	..	..	..	..	..	..	..	..
The Nilgiris	..	..	..	..	..	..	..	..	..	..	..
Kollegal	..	..	..	..	..	..	..	..	..	..	..
Coimbatore, North	..	..	..	..	..	..	..	..	..	..	..
Do. Central	..	..	..	..	..	..	..	..	..	..	..
Do. South	..	..	..	..	..	..	..	..	..	..	..
Total	25	6,417	44	13,727	17	1,347	94	8,982	3	80	313,816
Grand total for 1914-15	76	37,567	297	816,164	49	5,648	375	141,713	19	6,083	832,959
Grand total for 1914-15	83	20,161	174	164,934	37	9,220	201	26,558	12	427	454,273

* Includes the number of fires in the areas not under special protection.

APPENDIX B.—Comparative statement of impounded cattle for 1915-16.

District.	Number of cattle impounded.		Average for three years ending 1915-16.
	1914-15.	1915-16.	
<i>Northern Circle.</i>			
Ganjam	1,160	1,035	1,016
Vizagapatam	1,057	2,162	1,468
Godavari, Upper	293	610	430
Do. Lower	1,167	1,185	1,050
Kistna	3,472	4,365	3,612
Kurnool, East	8,662	7,284	8,728
Do. South	3,432	3,275	3,885
Do. West	11,600	9,866	12,167
Total	33,023	29,761	32,266
<i>Central Circle.</i>			
Bellary	13,770	12,424	13,330
Anantapur	10,376	13,789	11,341
Guntur	28,178	29,459	25,721
Cuddapah West	8,809	9,969	10,214
Do. East	5,509	6,214	5,805
Nellore	15,178	9,789	11,724
Chingleput	8,122	6,033	6,850
Chittoor	5,582	7,165	6,557
Total	98,176	94,813	95,542
<i>Southern Circle.</i>			
North Vellore	7,980	8,149	7,823
South do.	7,884	5,019	5,843
South Arcot	25,164	9,224	16,911
North Salem	4,418	3,771	4,354
South do.	6,708	4,553	5,036
Trichinopoly	5,047	2,594	6,433
Madura	7,318	5,035	6,062
Tinnevely	2,328	2,900	2,964
Total	66,866	41,275	54,431
<i>Western Circle.</i>			
Mangalore, North	220	332	766
Do. South	457	669	
Malabar, North	82	15	42
Do. South	83	140	101
The Nilgiris	959	1,034	790
Kollegal	3,031	2,187	2,869
Coimbatore, North	2,437	3,923	2,807
Do. Central	1,411	766	1,055
Do. South	588	1,018	1,012
Total	9,558	16,054	9,412
Grand total	208,393	175,993	191,671

ANNUAL REPORT OF THE

ANNUAL

Forest Department,

STATEMENT showing the progress made in, and the

Name of forest district.	Area already settled at commencement of year.	Areas finally settled during the year.					
		Number and date of Government Order according final sanction to the settlement.	Name of forest settled.	Area in square miles.	Expenditure incurred during the year on areas finally settled.		Entire cost per square mile of areas finally settled during the year.
					In forest accounts.	In other accounts.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Northern							
Ganjām ..	sq. Mls. (a) 559	....	....	sq. Mls. ..	sq. ..	sq. ..	sq. ..
Vizagapatam ..	511	G.O. No. 2004, Revenue, dated 3rd September 1915.	Busilikota and Rayipalem enclosures in Panivaram reserve.	0.60	..	..	..
Godavari, Upper.	428	G.O. No. 2877, Revenue, dated 27th October 1915.	Pedakonda extension I	1.23	..	..	..
			Enakuru extension II	..	..	..	..
Godavari, Lower.	404	....	....	..	..	..	..
Kistna ..	(a) 368	....	....	..	..	..	..
Kurnool, East.	1,000	....	....	..	..	..	..
Kurnool, South.	766	....	....	..	..	..	..
Kurnool, West.	867	....	....	..	..	..	..
Total ..	4,608			2.34	..	..	..
Central							
Bellary ..	619	....	....	..	..	..	..
Anantapur ..	743	G.O. No. 1845, Revenue, dated 8th June 1915.	Yerrakonda extension No. II.	7.76*	..	..	..
Guntur ..	814	....	....	..	..	..	..
Uddapah, West.	734	G.O. No. 2888, Revenue, dated 18th December 1915.	Faridpenta enclosure to Palakondas.	0.034	152	..	..
Uddapah, East.	1,084	....	....	..	..	..	..
Nellore ..	729	....	....	..	..	..	..

- (a) An area of 10 square miles was disafforested during the year.
 (c) Correct figure now reported.
 (d) Difference due to disafforestation and rectification of boundary.
 * This is the correct extent as notified under section 16.

FOREST DEPARTMENT

FORM No. 66.

Madras Presidency.

Expenditure incurred on, Forest Settlements during 1915-16.

Areas undergoing settlement.						
At commencement of the year.		Taken in hand during the year.		Expenditure incurred during the year on areas undergoing settlement.		Estimate of area in which settlement operations have not yet commenced.
Name of tract.	Area in square miles.	Name of tract.	Area in square miles.	In forest accounts.	In other accounts.	
(9)	(10)	(11)	(12)	(13)	(14)	(15)
Circles.						
Chokkapad	sq. Mls. (b) 64.69	Kriamba enclosure	sq. Mls. 0.13	..	..	..
.....	..		..	..	..	..
Nagar	246.61	.....	..	..	..	Cherla block area 56.16.
Padamidiluru	99.48	.....	..	..	..	..
Basipakala	1.88	.....	..	..	..	..
Kanchar reserve, Vandarugundi extension I.	0.32	.....	..	..	..	..
Tulluvadu extension V	0.50	.....	..	..	..	..
Valugri reserve, Korrajulagudem extension I.	1.93	.....	..	..	..	..
Gummadakonda extension III to Rekapalli hill reserve.	2.40	.....	..	..	..	..
Dhanukonda extension IV to Rekapalli hill reserve.	1.53	.....	..	..	..	..
Uringa extension	.. 75	.....	..	..	..	..
.....	..		..	..	..	..
.....	..		..	..	..	..
.....	..		..	..	..	..
.....	..		..	..	..	..
.....	491.84	.....	0.13	..	..	56.16
Circles.						
.....	..		..	..	..	..
Bhadrapur extension	0.56	.....	..	462	..	..
Addition to Amagondapalayam.	0.02	.....	..	..	..	..
Addition to Peddoddi reserve.	0.09	Addition to Dadilkota reserve.	0.06	..	..	..
.....	..		..	..	..	..
Pentaks in Palakondas	0.28	Putlampatti shrotriya forest.	2.76	..	..	..
Thummalahyly	0.16	.....	..	..	..	..
Palakondas	0.13	.....	..	..	..	..
.....	..	Addition to Gadur South E.F.	0.04	..	..	..

(b) Difference between this and last year's figure is due to recomputation of area.

ANNUAL REPORT OF THE

Statement showing the progress made in, and the expenditure

Name of forest district.	Area already settled at commencement of year.	Areas finally settled during the year.					Entire cost per square mile, of areas finally settled during the year.
		Number and date of Government Order according final sanction to the settlement.	Name of forest settled.	Area in square miles.	Expenditure incurred during the year on areas finally settled.		
					In forest accounts.	In other accounts.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Central							
	SQ. MILES.			SQ. MILES.	RS.		
	..	...	...	..	..	..	..
	..	...	...	..	..	..	..
	..	...	...	..	..	..	..
Chingleput.	209 *	...	...	..	..	..	..
Chittoor	888	...	...	..	..	..	..
"	..	...	...	..	..	..	..
Total ..	5,770			7,784	162	..	..
Southern							
Vellore, North.	491 (a) - 1 (b) - 14	....	....	..	..	..	..
Vellore, South.	712 (a) - 1 (b) + 14	G.O. No. 419, Rev., dated 23rd February 1916.	Addition to Andiappanur reserved forest.	0-0062	147	..	..
Aracot, South.	393 (c) + 13 (d) - 1	....	....	..	..	..	..
Salem, North.	792	....	....	..	..	..	..
Salem, South.	581	....	....	..	..	..	..
Trichinopoly	855 (e) - 18 (f) - 3 (g) - 5	G.O. No. 1285, Rev., dated 31st May 1915.	V. Kanapadi extension block.	0-5807	..	..	..
	..	G.O. No. 2655, Rev., dated 9th September 1915.	Palamalai extension block	1-24	..	..	..
Madura ..	557 (f) + 3	G.O. No. 1764, Rev., dated 29th July 1915.	Addition to Southern slopes ..	0-0062	..	..	..
		G.O. No. 132, Rev., dated 21st January 1916.	Addition to Pambar reserve ..	0-0014	..	..	..
		G.O. No. 251, Rev., dated 6th February 1916.	Addition to Adakkam reserve.	0-0082	85	..	..
Tinnevely.	429	G.O. No. 2245, Rev., dated 6th October 1915.	Tirukkuttaachala parvatam estate.	0-057	..	..	..
Ramanad division.		....	Mallodai estate part ..	0-057	..	..	..
Total ..	4,345			2-2367	232	..	..

- * The reservation of Nandambakkam extension II in Chingleput district was cancelled.
 (a) Deduction on account of correct computation of area.
 (b) Deduction on account of transfer of reserves from North to South Vellore.
 (c) Area transferred from Trichinopoly to South Arcot.

FOREST DEPARTMENT

incurred on, Forest Settlements during 1915-16—cont.

ncurred on, Forest Settlements during 1915-16--cont.

Areas undergoing settlement						Expenditure incurred during the year on areas undergoing settlement.	Estimate of areas in which settlement operations have not yet commenced.
At commencement of the year.		Taken in hand during the year.					
Name of tract.	Area in square miles.	Name of tract.	Area in square miles.	In forest accounts.	In other accounts.		(15)
(9)	(10)	(11)	(12)	(13)	(14)		

Circle--cont.

	sq. Mls.	Kavadi extension No. II	0-03	..	..	..	..
	..	Cherlapudi addition	0-02	..	..	..	..
	..	Sriharikota enclosure	1-14	..	..	..	..
	..	..	..	..	..	..	..
Addition to Gundlur reserve	0-015	..	..	..	..	..	..
Addition to Ankalammakonda	0-06	..	..	..	..	..	..
	1-251		4-10	432	..	..	..

Circle.

Korapet extension	0-0844	Sankalpapuram	0-042	1,158	..	..	..
Sholavaram	0-0251	Addition to Banavaram reserve.	0-076	..	..	..	..
		Thiruvallur plantation	0-834	..	..	..	..
		Thiruppuram	4941	..	..	..	..
		Anamudi	2500	..	..	..	..
		Vannivelu	0-825	..	..	..	..
		Kilhoimnal	2-281	..	..	..	..
Singarapet extension, Survey Nos. 129 and 130 of Semburai village.	0-0318		..	1,756	..	..	..
	..		..	..	..	..	..
Hudaiturgam 4 blocks	(e) 38	Bevanurmalai 2nd extension.	0-0078	..	..	..	..
		Bathanavadi extension	0-640	..	..	..	..
Arana	3		..	..	..	..	..
Tirtagiri	3		..	..	..	..	..
Jarugamalai	12		..	..	..	..	..
Tirumanur extension	0-200		..	..	..	..	..
Gunder	3-85		..	..	..	..	0-82
Ariyur shola block	1-81		..	..	..	..	..
Vengur padungais	(g)		..	..	..	..	..
			(x)	..	..	..	..
		Addition to Shergalvarayar reserve.	0-0039	..	..	..	..
			..	..	..	..	..
			..	..	..	..	..
			..	..	..	..	..
		Kuliratti enclosure	0-2147	..	..	..	..
Srivilliputtar ghat forests	0-0027		..	..	..	..	..
	61-83		2-7105	2,909	..	..	0-82

- (d) Area disafforested.
 (e) The difference is due to area thrown out at Forest settlement.
 (f) Area transferred to Madurai.
 (g) Area transferred to Public Works Department.

PORT OF THE

Statement showing the progress made in, and the expenditure

Name of forest district.	Area already settled at commencement of year.	Areas finally settled during the year.					
		Number and date of Government Order according to final sanction to the settlement.	Name of forest settled.	Area in square miles.	Expenditure incurred during the year on areas finally settled.		Entire cost per square mile of areas finally settled during the year.
					In forest accounts.	In other accounts.	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<i>Western</i>							
Mangalore, North.	362	G.O. No. 1849, dated 16th Aug. 1915.	Madilare extension No. I Do. extension No. II	14	..	..	..
Total	362			14	..	..	..
Mangalore, South.	436	G.O. No. 1676, dated 17th July 1915. G.O. No. 1677, dated 17th July 1915.	Subrahmanya extension No. I Aletti addition No. I	007 006	..	..	..
Total	436			013	..	..	..
Malabar, North.	233	....	....	..	..	..	..
Malabar, South.	142	....	....	..	..	..	..
The Nilgiris	475	G.O. No. 2116, dated 17th Sep. 1915.	Snowdon addition No. II	008	..	..	..
Total	475			008	..	..	..
Kollegal	730	G.O. No. 2644, dated 29th Nov. 1915.	Yedarhalli addition No. IV	003	..	..	..
		G.O. No. 2918, dated 29th Dec. 1915. G.O. No. 114, dated 19th Jan 1916.	Chikkailuru extension No. II. Hannur addition A Do. do. B	006 023 001	..	..	..
		G.O. No. 516, dated 7th March 1916.	Do. do. C Yedarhalli addition No. II	006 258	..	..	..
Total	730			292	..	..	..
Coimbatore, North.	922 (a) - 6	....	....	..	..	..	..
Total	916			..	..	..	..
Coimbatore, Central.	353	G.O. No. 2479, dated 8th Nov. 1915.	Survey Nos. 93-A and 93-B of Kummarampalayam (enclosures in Gopinari reserve).	006	..	..	..
		G.O. No. 2890, dated 24th Dec. 1915.	Anaikatti block, North Do. do. South	1.76 (b) + 1.14 7.86 (c) - .32	..	..	..
Total	353			9.916	..	..	..
Coimbatore, South.	464	G.O. No. 527, dated 8th March 1916.	Additions to Pannachi reserve No. II.	14	1,576	..	..
Total	464			14	1,576	..	..
Grand total	4,132			10.63 or 10	1,576	..	..

(a) Disafforested.
(b) Re-computation of areas.

FOREST SETTLEMENTS

incurred on, Forest Settlements during 1915-16--cont.

Areas undergoing settlement.							Estimate of areas in which settlement operations have not yet commenced.
At commencement of the year.		Taken in hand during the year.		Expenditure incurred during the year on areas undergoing settlement.			
Name of tract.	Area in square miles.	Name of tract.	Area in square miles.	In forest accounts.	In other accounts.		
(9)	(10)	(11)	(12)	(13)	(14)	(15)	
<i>North.</i>							
[	SQ. MILES.		SQ. MILES.	RS.		SQ. MILES.	
....	..		..	..	..	..	
....	..		..	..	..	..	
....	..		..	..	..	..	
....	..		..	..	..	..	
....	..		..	..	..	..	
....	..		..	..	..	..	
....	..		..	..	..	..	
Benne addition No. III	125	Nadubetti addition No. I	003	..	..	1.84	
Do. do. No. IV	038	Ranguswami Peak	2.23	..	..		
Kabralai addition	064	....	..	..	..		
Ammanakaval addition No. IV. (d)	..	....	..	..	..		
Ocherambadi addition No. V. (d)	..	....	..	..	..	..	
....	297	....	2.233	..	..	1.84	
Yedarhalli addition No. I	036	Yedarhalli addition No. VII.	01	3,665	..	1.39	
Do. No. III	016	....	..	..	..		
Do. No. V	030	....	..	..	..		
Do. No. VI	160	....	..	..	..		
Chikkailuru addition No. I	103	....	..	..	..	1.39	
Chikkailuru extension Nos. III and IV.	051	....	..	..	..		
....	..		..	..	..		
....	..		..	..	..		
....	326	....	01	3,565	..	1.39	
Enclosures in South Bargur reserve and its additions.	140	Enclosures in the Gutialattur reserve.	672	..	..	..	
Enclosures in North Bargur reserve and its additions.	198	....	..	..	..	..	
....	358	....	672	..	..	..	
Sundapatti additions Nos. 2 to 20.	80	}	..	45	..	..	
Addition to Thadagam block No. IV.	(b) + .05 - .06		..	..	..	..	
Thadagam additions Nos. 2 to 21.	087		..	..	..	..	
....	..		..	..	..	..	
....	..		..	..	..	..	
....	997	....	..	45	..	..	
Additions to Anamalai reserve.	08	....	..	..	..	..	
....	08	....	..	..	..	..	
....	2.12	....	2.91	3,610	..	2.24	

(c) Excluded at settlement.
(d) Excluded from reservation.

ANNUAL FORM No. 67.

Forest Department, Madras Presidency.

RECORD of demarcation and maintenance of boundaries during 1915-16.

District.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at the close of the year.	Length of boundaries still to be demarcated at the close of the year.	Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year.	
								On new work.	On repairs.
Northern Circle.									
Ganjam	(A) 4	(a. & (b)) 1,247	117	(j) 1,368	..	(k) 80	(l) 1,448	(b) 551	(m) 19
Visagapatam ..	..	(a) 533	..	510	24	19	583	(m)	383
Godavari, Upper ..	..	425	..	425	..	143	568	..	353
Do. Lower ..	..	(a) 727	25	785	..	51	836	..	1,120
Kistna	..	(a) 354	294	569	..	41	610	..	199
Kurnool, East ..	..	(a) 658	15	703	..	48	751	..	393
Do. South ..	..	(a) 601	..	629	..	5	634	..	314
Do. West ..	..	(c) 118	60	230	..	100	330	..	304
Total ..	4	(a) 2,688	998	5,949	24	487	6,460	551	3,951
Central Circle.									
Bellary	15	..	1,731	1,746	6	..	1,752	255	16
Anantapur ..	7	38	1,787	1,832	15	..	(a) 1,847	163	1,029
Guntur	..	17	1,375	1,392	..	..	1,392	..	481
Cuddapah, West ..	..	(a) 445	917	1,370	..	20	(a) 1,399	..	294
Do. East ..	..	(a) 59	672	915	..	46	961	..	1,489
Nellore	..	(a) 184	275	1,995	..	84	(a) 2,079	..	287
Chingleput ..	..	868	..	868	..	..	(a) 868	..	499
Chittoor	..	1,447	..	1,447	..	60	(a) 1,507	..	1,028
Total ..	22	(a) 2,629	6,757	11,566	21	219	11,806	418	6,387
Southern Circle.									
North Vellore ..	..	1,130	..	1,130	..	1	(d) 1,131	..	29
South do. ..	..	1,047	108	1,155	..	28	(d) 1,183	..	175
South Arcot ..	..	1,261	..	1,261	..	..	(a) 1,261	..	45
North Salem ..	..	969	429	1,398	..	40	1,399	..	500
South do. ..	..	903	240	1,143	..	5	1,148	..	354
Trichinopoly ..	13	897	68	965	3	24	(f) 1,005	154	39
Madura	57	975	408	1,438	121	178	(g) 1,787	2,226	28
Tinnevely ..	..	10	494	504	..	14	518	..	514
Total ..	70	(a) 6,071	1,745	8,878	124	290	9,292	2,380	1,689

(a) Cleared by Forest subordinates free of cost.

(b) Rupees 85 for outer boundary and Rs. 66 for enclosures. Rupees 413 were spent on construction of 1,899 cairns on the lines in Chokkapad cut during the previous year.

(c) Due to addition or disafforestation of reserves.

(d) The difference of 16 miles between the figures of the previous year and the year under reference was due to portions of Thellai, Malayalam and Anantapur reserves having been transferred from North to South Vellore.

(e) There was an increase of 79 miles due to the transfer of Tanjore reserves from Trichinopoly and a decrease of 30 miles due to the disafforestation of certain reserves and casuarina plantations and to the handing over a reserve to Public Works Department.

(f) The difference between the figures of the previous year and the year under reference was due to transfer of 70 miles of reserves to South Arcot, 5 miles to Madura and 61 miles to Public Works Department.

(g) The increase of 5 miles was due to the transfer of a reserve from Trichinopoly.

(h) Excludes 47 miles belonging to Parakkimedi Maliahs.

(i) Do. 458 do. do.

(j) Do. 506 do. do.

(k) Do. 14 do. do.

(l) Do. 519 do. do.

(m) Excludes Rs. 497 spent on new works in Parakkimedi Maliahs.

(n) Excludes Rs. 1 spent on repairs in Parakkimedi Maliahs.

of demarcation and maintenance of boundaries during 1915-16 cont.

District.	Length of boundaries artificially demarcated during the year.	Length of previously existing boundaries repaired.	Length of previously existing boundaries not repaired.	Total length of artificially marked boundaries at the close of the year.	Length of boundaries still to be demarcated at the close of year.	Length of natural boundaries not requiring artificial marks.	Total length of boundaries at the close of the year.	Expenditure on demarcation during the year.	
								On new work.	On repairs.
Western Circle.									
Mangalore, North ..	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	MILES.	RS.	RS.
Do. South ..	..	..	..	..	..	..	..	..	..
Malabar, North ..	12	(b) 102	1,000	1,174	20	36	1,230	935	{ (g) 29 (h) ..
Do. South ..	..	{ (b) 15 (c) 9 }	60	181	20	55	296	..	{ (i) 445 (j) 118
The Nilgiris ..	2	54	1,559	1,615	..	299	1,914	100	{ (j) 2,581 145
Kollegal ..	6	{ (d) 45 (e) 32 }	110	170	{ (e) 232 (f) 28 }	87	483	271	285
Coimbatore, North ..	(a) 2	(c) 380	(d) 5	540	{ (a) 2 (d) 13 }	{ (d) 7 (f) 44 }	110	573	45
Do. Central ..	..	..	583	583	(f) 14	(f) 6	669	..	{ (i) 44 (j) 64
Do. South ..	..	{ (b) 19 (c) 101 }	103	214	..	52	266	..	{ (i) 4
Total ..	22	{ (b) 136 (c) 242 (e) 470 }	3,023	3,793	369	856	8,048	1,351	1,975
Grand total ..	118	{ (b) 1,206 (c) 11,438 }	15,423	33,189	538	1,882	35,605	4,700	18,902

* Revised figures furnished by the District Forest Officers with reference to the length given in the Survey of India.

(a) Length of revised boundaries caused by disafforestation.

(b) Cleared for fire-protection, the cost being debited to A-viii (f).

(c) Cleared by forest subordinates free of cost.

(d) Length of boundaries of a portion of Velamundi reserved forest disafforested.

(e) Do. of enclosures transferred to reserved forests.

(f) Do. of reserved lands.

(g) Cost of demarcating coupes and repairs to coupe stones, etc., wrongly debited to A-viii (a).

(h) Cash recovery of service payments.

(i) Cost of construction of cairns, pillars, etc.

(j) Cost of clearing block and compartment lines.

ANNUAL REPORT OF THE

ANNUAL FORM NO. 69.

Forest Department, Madras Presidency

Progress made in working-plans during 1915-16.

District.	Areas for which working-plans have been completed and approved by the Board.		Areas for which working-plans are being compiled or have been compiled but not sanctioned.		Areas for which working-plans have still to be taken in hand.	Area for which working-plans are not at present required.	Total forest area as in form No. 65.
	At commencement of the year.	During the year.	At commencement of the year.	Taken in hand during the year.			
<i>Northern Circle.</i>	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
Channarayana ..	442	182	..	..	..	..	624
Channarayana ..	146	..	28	..	78	68	312
Godavari, Upper ..	(d) 58	..	..	(c) 107	264	352	721
Do. Lower ..	24	..	380	..	..	76	479
Kistna ..	149	..	(d) ..	..	..	119	268
Kurru, East ..	..	117	562	..	291	..	1,070
Do. South ..	(e) 685	..	(c) 81	..	..	..	766
Do. West ..	409	..	..	..	..	398	807
Total ..	1,972	329	1,051	107	628	1,012	6,099
<i>Central Circle.</i>							
Bellary ..	..	..	..	89	418	176	682
Anantapur ..	426	..	..	..	326	..	752
Guntur ..	8	..	164	4	688	..	814
Cuddapah, West ..	89	..	17	77	596	..	739
Do. East ..	(f) 157	47	17	..	868	..	1,084
Nellore ..	(f) 200	..	19	1	503	..	728
Chingleput ..	(f) 208	..	..	..	..	..	208
Puttur ..	(f) 781	..	..	..	50	..	831
Total ..	1,819	47	217	171	3,894	176	6,328
<i>Southern Circle.</i>							
North Vellore ..	(g) 476	..	..	2	..	..	478
South do. ..	(g) 713	12	..	..	..	..	725
South Arcot ..	(h) 163	..	132	..	18	40	353
North Salem ..	161	..	(A) 670	..	..	..	831
South do. ..	(i) 452	53	73	..	18	2	535
Trichinopoly ..	184	..	26	..	52	76	338
Madurai ..	356	..	..	3	301	..	660
Tinnevely ..	240	..	..	..	82	151	473
Total ..	2,751	65	801	5	421	268	4,415
<i>Reserved forests.</i>							
<i>Western Circle.</i>							
Mangalore, North. ..	(a) 358	..	..	..	4	..	362
Do. South. ..	(a) 436	..	..	..	..	..	436
Malabar, North ..	178	..	58	..	32	..	268
Do. South ..	7	..	..	..	95	37	139
The Nilgiris ..	107	..	..	..	368	..	475
Kollegal ..	53	..	22	..	160	496	731
Coimbatore, North. ..	259	..	..	..	687	..	946
Do. Central. ..	220	..	..	..	54	89	363
Do. South. ..	{ (k) + 1 }	..	..	..	34	317	427
Total ..	1,724	..	76	..	1,374	988	4,111

- (a) Revised figures furnished by the District Forest officer.
 (b) The preparation of the working plan for the area noted in column 4 of the previous year was given up.
 (c) The difference between these and previous years figures is due to slight adjustment in range figures.
 (d) Area of the Bhadrachellam working-plan.
 (e) Area of reserved forest in Marriyadum range for which a working-plan is under preparation.
 (f) and (g) Correct figures as per Survey of India sheets now reported by the District Forest officer.
 (h) Reduction due to cancellation of portions of working-plans or disafforestation of areas.
 (i) Fourteen square miles were transferred from North to South Vellore and deduction of 1 square mile in each division was due to the correct computation of area.
 (A) Difference of 7 square miles due to area excluded at settlement.
 (j) The 17 miles entered in column 3 of the previous year's return was not added as the area was already covered by a working-plan.
 (k) The increase of 8 square miles is due to transfer of Tanjore ranger reserves already under working-plan.
 (l) Wrongly included in column 6 in previous years.

FOREST DEPARTMENT

Progress made in working-plans during 1915-16—cont.

District.	Areas for which working-plans have been completed and approved by the Board.		Areas for which working-plans are being compiled or have been compiled but not sanctioned.		Areas for which working-plans have still to be taken in hand.	Areas for which working-plans are not at present required.	Total forest area, as in form No. 65.
	At commencement of the year.	During the year.	At commencement of the year.	Taken in hand during the year.			
<i>Reserved lands.</i>	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.	SQ. MLS.
<i>Western Circle—cont.</i>							
Malabar, North ..	..	..	..	..	1	(a) 8	9
The Nilgiris ..	..	..	..	..	..	..	..
Kollegal ..	..	..	..	..	1	..	1
Coimbatore, North. ..	..	..	..	..	..	..	..
Do. Central. ..	..	..	..	..	..	..	..
Do. South. ..	..	..	..	..	2	9	11
Total ..	..	..	..	..	..	..	..
<i>Leased forests.</i>							
Malabar, South ..	24	..	..	..	..	..	24
The Nilgiris ..	76	..	..	..	27	..	103
Coimbatore, South. ..	..	..	..	..	..	..	..
Total ..	100	..	..	..	27	..	127
Grand total ..	1,824	..	76	..	1,408	947	4,249
Grand total, Presidency.	8,366	411	2,244	288	5,816	2,402	14,588

* Less than one square mile.
 (a) Includes 5 squares miles of kada patta land.

Area of forest tracts protected from fire during 1915-16—cont.

District.	Forest tracts.	Area protected during the previous year.	During the year under report.			Cost during the year under report.
			Area attempted to be protected.	Fires.	Actually protected.	
Central Circle—cont.						
Chingleput.	Special protection	ACS. 25,505	ACS. 25,540	ACS. 151	ACS. 25,380	RS. 943
	General do.	107,603	107,543	100	107,443	..
	Total	133,107	133,083	261	132,823	943
Chittoor	Special protection	135,315	132,882	11,567	122,245	1,349
	General do.	332,215	403,270	10,271	286,799	..
	Total	467,530	536,152	21,838	409,044	1,349
Total	Special protection	1,036,793	1,421,397	236,474	1,137,733	31,042
	General do.	867,745	942,463	23,428	728,973	1,328
	Total	1,904,538	2,363,860	278,902	1,866,706	32,370
Southern Circle.						
Vellore, North.	Special protection	49,584	35,116	3,532	31,584	649
	General do.	278,238	269,677	9,940	259,737	..
	Total	327,822	304,793	13,472	291,321	649
Vellore, South.	Special protection	122,216	116,045	16,291	99,755	455
	General do.	321,032	328,906	20,779	308,127	..
	Total	443,248	444,951	37,070	407,882	455
South Arcot. cum Tanjore	Special protection	13,541	13,541	5	13,538	189
	General do.	201,272	212,127	118	212,011	..
	Total	214,813	225,668	123	225,549	189
Salem, North	Special protection	52,196	51,785	1,315	52,822	..
	General do.	104,000	104,000	9,307	100,693	..
	Total	156,196	155,785	10,622	153,515	..
Salem, South	Special protection	218,987	211,731	14,888	196,843	1,789
	General do.	164,105	167,085	2,140	164,945	..
	Total	383,092	378,816	17,028	361,788	1,789
Trichinopoly.	Special protection	22,093	88,355	483	87,872	603
	General do.	81,596	117,993	23	117,970	..
	Total	103,689	206,348	506	205,842	603
Madura	Special protection	125,918	178,573	12,462	166,111	5,181
	General do.	288,850	289,595	10,847	287,748	..
	Total	414,768	468,168	23,309	453,859	5,181
Tinnevely.	Special protection	30,266	35,377	1,277	34,100	5,100
	General do.	204,392	206,713	6,738	200,979	..
	Total	234,658	242,090	8,015	235,079	5,100
Grand total (Special and General) Protection.						
Total, Special protection.		642,980	740,477	87,864	632,033	17,319
Total, General protection.		1,999,098	2,012,541	59,445	1,955,095	..
Grand total (Special and General) Protection.		2,642,078	2,753,018	147,309	2,587,128	17,319
Mangalore, North.	Special protection	35,120	39,388	415	38,973	1,168
	General do.	195,880	192,659	879	191,780	621
	Total	230,999	232,047	1,294	230,753	1,789
Mangalore, South.	Special protection	106,927	107,341	855	106,486	1,308
	General do.	171,063	171,451	1,046	170,405	913
	Total	277,990	278,792	1,902	276,891	2,221
Malabar, North.	Special protection	189,040	189,089	4,410	184,679	7,054
	General do.	..	..	..	..	..
	Total	189,040	189,089	4,410	184,679	7,054

† Fire tracing—South Canara-Mysore boundary.

Area of forest tracts protected from fire during 1915-16—cont.

District.	Forest tracts.	Area protected during the previous year.	During the year under report:			Cost during the year under report.
			Area attempted to be protected.	Fires.	Actually protected.	
	<i>Western Circle.</i>	ACS.	ACS.	ACS.	ACS.	RS.
Malabar, South.	Special protection ..	82,107	82,117	1,748	80,369	2,675 ^o
	General do. ..	..	..	..	..	..
	Total ..	82,107	82,117	1,748	80,369	2,675
The Nilgiris.	Special protection ..	74,353	74,530	11,263	63,267	3,903
	General do. ..	..	..	..	..	..
	Total ..	74,353	74,530	11,263	63,267	3,903
Kollegal ..	Special protection ..	64,390	67,717	2,009	65,708	3,131
	General do. ..	392,459	399,490	36,294	363,196	..
	Total ..	456,849	467,207	38,303	428,904	3,131
Coimbatore, North.	Special protection ..	71,634	72,484	48,114	24,370	3,313
	General do. ..	509,263	513,688	214,656	298,032	..
	Total ..	580,897	586,172	262,770	322,402	3,313
Coimbatore, Central.	Special protection ..	104,975	91,703	6,319	85,384	2,455
	General do. ..	120,729	110,327	4,246	106,081	..
	Total ..	225,705	202,030	10,565	191,465	2,455
Coimbatore, South.	Special protection ..	45,500	47,281	1,923	45,388	2,278
	General do. ..	176,600	181,104	1,553	179,451	..
	Total ..	221,100	228,385	3,476	224,839	2,278
Total, Special, Western Circle.		724,046	721,630	77,057	644,573	27,398
Total, General, Western Circle.		1,564,945	1,569,019	258,774	1,340,945	1,605
Grand total, S. C. ..		2,288,991	2,290,649	3,35,831	1,985,518	29,003
Total, Presidency, Special.		3,717,551	4,328,346	736,168	3,592,178	1,16,693
General ..		5,794,573	5,958,022	449,415	5,508,607	9,351
Grand total, Presidency ..		9,512,124	10,286,368	1,185,583	9,100,785	1,26,044

Area of forest tracts protected from fire during 1915-16—cont.

District.	Forest tracts.	Area protected during the previous year.	During the year under report.			Cost during the year under report.
			Area attempted to be protected.	Fires.	Actually protected.	
Central Circle—cont.						
Chingleput.	Special protection	25,505	25,540	151	25,390	942
	General do.	107,602	107,542	100	107,442	..
	Total	133,107	133,082	251	132,832	942
Chittoor	Special protection	135,815	132,882	11,567	122,315	1,349
	General do.	332,215	403,270	16,471	386,799	..
	Total	468,030	536,152	28,038	509,114	1,349
Total	Special protection	1,096,793	1,421,397	23,474	1,227,723	21,042
	General do.	867,745	942,462	16,471	903,978	1,349
	Total	1,964,538	2,363,859	39,945	2,131,701	22,391
Southern Circle.						
Vellore, North.	Special protection	49,884	36,116	3,632	31,584	649
	General do.	278,293	269,677	9,940	259,737	..
	Total	328,177	305,793	13,572	291,321	649
Vellore, South.	Special protection	122,216	118,046	16,391	99,755	465
	General do.	321,032	328,906	20,779	308,127	..
	Total	443,248	446,952	37,170	407,882	465
South Arcot. cum Tanjore	Special protection	13,541	13,541	5	13,536	189
	General do.	201,272	212,127	118	212,011	..
	Total	214,813	225,668	123	225,547	189
Salem, North	Special protection	52,126	51,766	5,275	52,822	..
	General do.	456,556	456,556	9,307	460,620	..
	Total	508,682	508,322	14,582	513,442	..
Salem, South	Special protection	218,887	211,731	14,888	196,843	1,789
	General do.	164,105	167,085	2,140	164,945	..
	Total	382,992	378,816	17,028	361,788	1,789
Trichinopoly.	Special protection	22,093	88,355	483	87,872	503
	General do.	81,596	117,993	23	117,970	..
	Total	103,689	206,348	506	205,842	503
Madura	Special protection	125,918	178,572	12,462	166,111	5,181
	General do.	288,850	289,595	10,247	289,348	..
	Total	414,768	468,167	22,709	455,459	5,181
Tinnevely.	Special protection	30,266	35,377	1,377	34,100	5,100
	General do.	204,392	206,712	6,733	200,979	..
	Total	234,658	242,089	8,110	235,079	5,100
Total, Special protection.		642,980	740,477	57,864	682,623	17,219
Total, General protection.		1,999,096	2,012,541	59,445	1,983,096	..
Grand total (Special and General) Protection.		2,642,076	2,753,018	117,309	2,665,719	17,219
Mangalore, North.	Special protection	35,120	39,388	415	38,973	1,168
	General do.	195,880	192,659	879	191,780	621
	Total	230,999	232,047	1,294	230,753	1,789
Mangalore, South.	Special protection	106,927	107,341	856	106,485	1,308
	General do.	171,063	171,451	1,046	170,405	984
	Total	277,990	278,792	1,902	276,890	2,292
Malabar, North.	Special protection	189,040	189,089	4,410	184,679	7,684
	General do.	..	..	..	..	..
	Total	189,040	189,089	4,410	184,679	7,684

† Fire tracing—Canara-Mysore boundary.

Area of forest tracts protected from fire during 1915-16—cont.

District.	Forest tracts.	Area protected during the previous year.	During the year under report.			Cost during the year under report.
			Area attempted to be protected.	Fires.	Actually protected.	
	<i>Western Circle.</i>	ACS.	ACS.	ACS.	ACS.	RS.
Malabar, South.	Special protection ..	82,107	82,117	1,748	80,369	2,675 ⁶
	General do. ..	..	..	..	..	..
	Total ..	82,107	82,117	1,748	80,369	2,675
The Nilgiris.	Special protection ..	74,353	74,530	11,263	63,267	3,903
	General do. ..	..	..	..	..	..
	Total ..	74,353	74,530	11,263	63,267	3,903
Kollegal ..	Special protection ..	64,390	67,717	2,009	65,708	3,181
	General do. ..	392,459	399,490	36,294	363,196	..
	Total ..	456,849	467,207	38,303	428,904	3,181
Coimbatore, North.	Special protection ..	71,634	72,484	48,114	24,370	3,313
	General do. ..	509,263	513,688	214,656	299,032	..
	Total ..	580,897	586,172	262,770	323,402	3,313
Coimbatore, Central.	Special protection ..	104,975	91,703	6,319	85,384	2,455
	General do. ..	120,729	110,527	4,246	106,281	..
	Total ..	225,705	202,230	10,565	191,665	2,455
Coimbatore, South.	Special protection ..	45,500	47,261	1,923	45,828	2,278
	General do. ..	176,500	181,104	1,653	179,451	..
	Total ..	221,999	228,365	3,576	225,279	2,278
	Total, Special, Western Circle.	724,046	721,630	77,057	644,573	27,398
	Total, General, Western Circle.	1,564,945	1,569,019	258,774	1,340,245	1,605
	Grand total, S. C. ..	2,288,991	2,290,649	3,35,831	1,984,818	29,003
	Total, Presidency, Special.	3,717,551	4,338,346	736,168	3,592,178	1,16,693
	General ..	5,794,573	5,958,022	449,415	5,508,607	9,351

ANNUAL REPORT OF THE

ANNUAL FORM No. 73.

Forest Department, Madras Presidency.

Area closed and open to grazing during 1915-16.

District.	Area in square miles.						Total forest area as per form No. 55.
	Closed to all animals.		Closed to both goats and sheep.		Area closed to goats only.	Open to all animals.	
	Whole year.	Part of year.	Whole year.	Part of year.			
NORTHERN CIRCLE.							
Reserved forests.							
Ganjam	Sq. Mls. 79	Sq. Mls. ..	Sq. Mls. ..	Sq. Mls. ..	Sq. Mls. (b) 480	..	Sq. Mls. (c) 559
Visagapatam	15	..	2	..	295	..	312
Godavari, Upper	..	..	..	..	429	..	429
Do. Lower	56	..	224	..	124	..	404
Kistna	65	10	..	..	193	..	265
Kurnool, East	315	..	..	..	685	..	1,000
Do. South	565	1	..	..	200	..	766
Do. West	194	..	..	..	673	..	867
Total	1,289	11	226	..	3,079	..	4,605
Reserved lands.							
Ganjam	..	..	..	..	66	..	66
Visagapatam	..	..	..	..	2	..	2
Godavari, Upper	..	..	..	..	353	..	353
Do. Lower	..	..	..	..	75	..	75
Kistna	..	..	..	..	..	..	..
Kurnool, East	..	..	..	..	..	..	..
Do. South	..	..	..	..	..	..	..
Do. West	..	..	..	..	..	..	..
Total	..	..	..	..	494	..	494
CENTRAL CIRCLE.							
Reserved forests.							
Bellary	124	..	..	..	411	84	619
Anantapur	163	1	..	..	367	..	751
Guntur	63	..	..	..	334	117	514
Cuddapah, West	60	..	..	..	666	..	726
Do. East	163	..	..	..	921	..	1,084
Nellore	212	..	..	..	519	..	731
Chingleput	32	11	..	..	166	2	208
Chittoor	111	38	..	..	687	..	831
Total	928	45	..	..	4,879	303	5,755
Reserved lands.							
Bellary	63	..	..	..	..	..	63
Anantapur	..	..	..	..	..	1	1
Guntur	..	..	..	..	..	..	..
Cuddapah, West	3	..	..	..	..	..	3
Do. East	..	..	..	..	..	..	..
Nellore	1	..	..	..	..	..	1
Chingleput	..	..	..	..	..	..	..
Chittoor	..	..	..	..	..	..	..
Total	67	..	..	..	..	1	68
SOUTHERN CIRCLE.							
Reserved forests.							
North Vellore	58	..	..	..	618	..	476
South do.	50	..	..	..	675	..	725
South Arcot cum Tanjore	58	..	..	..	309	..	367
North Salem	96	..	..	..	490	..	792
South do.	58	23	..	..	500	..	581
Trichinopoly	34	..	..	..	397	..	331
Madura	98	..	..	..	567	..	665
Tinnevely cum Ramanad	327	62	2	3	126	..	420
Total	679	85	2	3	3,579	..	4,347
Reserved lands.							
North Vellore	2	..	..	..	(a)	..	2
South do.	..	..	..	..	..	..	..
South Arcot cum Tanjore	..	..	..	..	30	..	30
North Salem	..	..	..	..	18	..	18
South do.	..	..	..	..	6	..	6
Trichinopoly	..	..	..	..	(a)	..	..
Madura	..	..	..	..	..	..	..
Tinnevely cum Ramanad	..	..	..	..	..	..	..
Total	2	..	..	..	63	..	65

(a) Area omitted being less than a square mile.

(b) Excludes 183 sq. miles in Parakkimedi Malabar.

(c) Do. do.

FOREST DEPARTMENT

XXV

Area closed and open to grazing during 1915-16—cont.

District.	Area in square miles.						Total forest area as per form No. 65.
	Closed to all animals.		Closed to both goats and sheep.		Area closed to goats only.	Open to all animal	
	Whole year.	Part of year.	Whole year.	Part of year.			
WESTERN CIRCLE.							
Reserved forests.							
	SQ. MLS.	SQ. MLS.	SQ. MLS.		SQ. MLS.		SQ. MLS.
Mangalore, North ..	11	..	..	..	351	..	362
Do. South ..	..	..	..	..	436	..	436
Malabar, North ..	12	..	251	..	..	..	263
Do. South ..	143	..	..	..	..	..	143
The Nilgiris ..	23	..	..	..	452	..	476
Kollegal ..	81	..	..	..	649	..	730
Cochin, North ..	45	..	..	..	871	..	916
Do. Central ..	120	37	..	..	206	..	353
Do. South ..	87	..	178	..	139	..	226
Total ..	522	37	429	..	3,154	..	4,142
Reserved lands.							
Malabar, North ..	20	..	..	..	..	..	20
Do. South ..	4	..	..	..	81	..	85
The Nilgiris ..	..	..	..	..	..	..	..
Kollegal ..	..	..	..	..	1	..	1
Cochin, North ..	1	..	..	..	..	..	1
Do. Central ..	..	..	..	..	..	..	..
Do. South ..	..	..	..	..	..	..	..
Total ..	25	..	..	..	82	..	107
Grand total ..	547	37	429	..	3,236	..	4,249
Grand total, Presidency ..	3,512	178	657	2	15,030	204	19,583

* Less than one square mile.

FORM No. 74.
Madras Presidency.
State forests during 1915-16.

Number of animals.							Grazing free. Number of animals.										Grand total of value at full rates.
At privileged rates.							By right under settlement.					During pleasure of Government or otherwise than under settlement.					
Buffaloes. (12)	Cows and bullocks. (13)	Goats and sheep. (14)	Other animals. (15)	Fees received. (16) (17)		Buffaloes. (18)	Cows and bullocks. (19)	Goats and sheep. (20)	Other animals. (21)	Value of fees at full rates. (22)	Buffaloes. (23)	Cows and bullocks. (24)	Goats and sheep. (25)	Other animals. (26)	Value of fees at full rates. (27)	Total value of fees at full rates. (28)	
				RS.	RS.					RS.					RS.	RS.	RS.
..	..	..	..	..	..	..	..	..	..	..	341	1,270	S 54	..	371	371	9,34
(d) 5,145	(d) 27,516	(d) S 9,698	..	2,666	7,995	..	..	..	..	..	4,666	49,772	S 338	..	11,077	11,077	5,86
(e) 1,356	(e) 11,810	..	..	2,824	7,701	..	..	..	..	..	752	7,114	..	..	2,154	2,154	15,00
(h) 504	(h) 16,325	}	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14,68
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13,24
..	..	..	..	..	..	157	235 { G 762 S 1,140 }	..	..	281	..	..	..	..	..	..	33,02
..	..	..	..	..	..	2	59 S 66	..	..	12	..	..	..	..	..	..	9,35
..	..	..	..	..	..	1,491	S 3,293 }	..	..	589	..	..	..	..	..	..	23,72
7,008	54,951	S 9,698	..	5,400	15,789	159	1,752 { G 762 S 4,509 }	..	..	882	6,649	58,156	S 442	..	13,602	13,602	1,27,80
(e) 5,808	(e) 38,143	(e) S 770	..	6,288	9,402	..	..	..	..	..	..	..	..	..	..	..	11,65
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,50
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	419
5,808	58,143	S 770	..	6,288	9,402	..	..	..	..	..	..	..	..	..	..	..	13,978
12,843	98,094	S 10,468	..	11,768	25,191	159	1,752 { G 762 S 4,509 }	..	..	882	6,649	58,156	S 442	..	13,602	13,602	1,46,786
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	41,374
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23,662
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,04,587
(e) ..	159	S 200	..	24	48	..	..	..	..	..	..	..	..	..	..	..	17,791
(f) ..	151	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17,176
(g) ..	277	..	..	35	80	..	738	..	138	..	..	..	..	..	..	..	74,802
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	10,512
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	23,263
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	587	S 200	..	69	128	..	738	..	138	..	..	51	..	..	15	15	3,22,065

- (a) Enhanced rates are 8 annas per buffalo, 4 annas per cow or bull and 2 annas per sheep.
 (d) Privileged rates in Bhadrachalam taluk are 2 annas per buffalo, 1 anna per cow or bullock and 6 pies per sheep.
 (f) The enhanced rates are 12 annas per buffalo, 6 annas per cow or bullock and 3 annas per sheep.
 (j) Privileged rates are 1 anna per buffalo and 1 anna per bullock or cow.
 (k) Rate for penta catle, Rs. 1 per cow or buffalo or other animal and annas 8 per sheep.
- (1) The enhanced or special rates are—
 Goats—Bellary, As 8; Chingleput, As. 4
 Guntnr .. (A) Rs. 1-8 per buffalo, As. 12 per cow, As. 5 per goat and As. 6 per sheep.
 .. (d) As. 8 per buffalo, As. 4 per cow, and As. 2 per sheep.
 Gaddapah, East .. (u) As. 5 per cow and As. 3 per sheep.
 Bellare .. (v) As. 4 per cow and As. 2 per sheep.
 Chittoor .. (o) As. 12 per buffalo, As. 6 per cow and As. 3 per sheep.
- (2) The full rates are As. 6 per buffalo, As. 3 per cow and As. 1-8 per sheep.
 (p) Half the full rates for half-year in Anantapur.
- (3) The privileged rates are—
 Cuddapah, West .. (q) As. 1-6 per cow and 9 pies per sheep.
 Do. East .. (r) Anna 1 per cow,
 .. (s) As. 1-6 per cow

Forest Department
Return of grazing in the

(Grading by payment.)

District.	At enhanced or special rates.					At full rates.				
	Buffaloes.	Cows and bullocks.	Sheep.	Other animals.	Fees received.	Buffaloes.	Cows and bullocks.	Sheep.	Other animals.	Fees received.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
SOUTHERN CIRCLE.					RS.					RS.
Nellore, North	..	..	..	..	..	1,183	58,608	69,079	..	18,077
Do. South	..	20,243	..	..	5,061	1,774	77,914	35,702	..	18,641
South Arcot cum Tanjore.	..	112	(a) 868	..	140	3,824	58,863	86,548	..	18,621
Salem, North	1,717	86,182	32,158	..	22,434	130	23,867	12,090	..	10
Do. South	..	..	..	..	..	822	80,088	82,449	..	30,583
Trichinopoly	..	..	..	..	..	1,646	43,171	164,273	..	110
Madara	466	59,256	44,131	347	30,560	..	..	..	..	303
Tinnevely	..	(f) 467	..	..	167	806	16,510	18,175	..	5,667
Total ..	2,183	166,260	77,157	347	52,442	10,487	864,508	419,816	..	18,077
WESTERN CIRCLE.										
Reserved Forests.										
Mangalore, North	..	..	..	..	..	2,077	17,921	..	..	4,104
Do. South	..	..	..	..	..	3,301	20,118	..	..	2,444
Malabar, North	..	..	..	..	..	3,517	7,368	..	..	2,704
Do. South	..	..	..	..	..	..	..	..	..	..
The Nilgiris	..	(h) 1,085	..	..	548	11,680	21,288	8 2,034	..	8,094
Kollegal *	3,044	67,842	8 6,749	..	19,201	..	..	..	..	..
Coimbatore, North * ..	6,281	75,216	8 28,686	..	26,530	..	..	..	..	..
Do. Central	..	..	..	..	(m) 412	239	22,378	8 13,552	..	5,554
Do. South	..	..	..	..	..	300	9,671	8 161	(p) 2	(m) 1,001
Total ..	9,325	144,143	8 34,434	..	46,686	21,304	99,514	8 16,717	2	1,071
Reserved Lands.										
The Nilgiris	..	(i) 232	..	..	116	907	1,098	..	..	1,986
Total, Western Circle ..	..	..	..	..	..	..	..	..	..	..
Grand Total, Presidency ..	22,573	470,604	8 388,879	353	2,66,586	97,840	925,178	8 1,148,623	2	16,717

Note for S.C.— The enhanced or special rates are : buffaloes 8 annas, cows, bullock or other animals 4 annas and sheep 2 annas. The full rates are 6 annas per buffalo, 3 annas per cow, bullock or other animal and 1½ annas per sheep. The privileged rates are half the full rates.

(a) Collection from panchayatdars.
(b) Sale-proceeds of fodder grass.
(c) Grazing licence fee.
(d) Grazing assessment for the Malayali cattle on the Chittiras as per B.P. Forest No. 142, dated 6th October 1915.
(e) Annual fee.
(f) Lease amount for grazing in Kavalantiparamba reserved forest.
(g) 165 sheep at 2½ annas each and 763 sheep at 2 annas each.
(h) Lease amount of grazing in certain reserves.

Note for W.C.— The full rates are As. 6 per buffalo, As. 3 per cow, bullock or other animals and As. 1-6 per sheep.

* Annas 2 per buffalo, As. 4 per cow, bullock or other animals and As. 2 per sheep.
(i) Annas 8 per cow or bullock.
(j) Cattle, half rate.
(k) Elephants at Rs. 10 each.
(l) Buffaloes, cows, etc., bought for a cattle fair charged without distinction at a uniform rate of As. 2 per head.
(m) Elephant.
(n) Excludes Rs. 2 wrongly debited to II (d) instead of II (e).

Madras Presidency.

State forests during 1915-16—cont.

State forests during 1915-16—Cont.

Number of animals.						(Grazing free. Number of animals.)												Grand total of value at full rates.
At privileged rates.						By right under settlement.						During pleasure of Government or otherwise than under settlement.						
Buffaloes. (12)	Cows and bullocks. (13)	Sheep. (14)	Other animals. (15)	Fees received.		Buffaloes. (18)	Cows and bullocks. (19)	Sheep. (20)	Other animals. (21)	Value of fees at full rates. (22)	Buffaloes. (23)	Cows and bullocks. (24)	Sheep. (25)	Other animals. (26)	Value of fees at full rates. (27)	Total value of fees at full rates. (28)		
				Actual. (16)	Value at full rates. (17)													
47	726	..	..	RS. 77	RS. 164	..	..	..	..	..	..	..	..	..	RS. (h) 5,028	RS. 5,028	RS. 24,900	
2,526	14,978	506	..	1,920	3,840	..	..	..	..	..	30	3,268	233	..	653	655	28,250	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	(A) 11	11	21,237	
..	..	..	..	..	..	..	..	..	..	..	..	150	..	..	28	28	32,542	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20,024	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	24,076	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	20,670	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5,507	
2,478	15,704	506	..	1,997	3,994	..	..	..	..	..	30	3,418	233	..	5,782	5,782	1,77,186	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,139	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,318	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,791	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	(4) ..	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	11,866	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19,201	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	25,942	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	7,636	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,213	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	81,143	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	682	
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
15,486	1,09,343	29,162	18,355	16,176	33,293	159	2,490	1 509 G 762	..	1,020	7,748	61,673	775	1	20,209	20,209	1,27,845	

ABSTRACT of animals licensed to graze on payment.

Circle.	Buffaloes.	Bullocks and cows.	Sheep.	Goats.	Other animals.	Total.
Northern Circle	60,375	309,651	205,580	..	11	575,620
Central Circle	28,495	404,036	713,872	28,357	..	1,211,480
Eastern Circle	16,293	516,470	497,479	..	347	1,099,589
Western Circle	24,438	244,987	68,139	..	18,355	302,917
Grand Total, Presidency ..	149,709	1,595,167	1,544,570	28,357	18,713	3,212,656

ANNUAL FORM No. 76.

Forest Department, Madras Presidency.

AREA under artificial reproduction, 1915-16.

District.	Area in acres.				Expenditure during the year.		Total expenditure from commencement.		Revenue during the year.	Total revenue from date of creation of plantation.
	On 1st July 1915.	Added during the year.	Excluded during the year.	Area on 30th June 1916.	Creation.	Upkeep.	Creation.	Upkeep.		
NORTHERN CIRCLE.										
A.—Regular Plantations.										
* Ganjam ..	ACS. (a) 412	ACB. ..	ACS. † 412	ACS. (a) ..	RS. (b) ..	RS. (c) 28,199	RS. (d) 12,918	RS. ..	RS. 28,216	
Visagapatnam ..	51	..	..	51	..	..	5	200	8,088	
Godavari, Lower ..	418	..	† 76	342	247	† 31,150	115,300	5,654	† 52,789	
Kistna ..	813	..	† 225	58	100	† 5,983	121,150	..	† 24,321	
Kurnool, East ..	130	..	..	130	415	38,471	26,963	..	..	
Do. West ..	1,878	102	..	1,480	4,704	2,88,386	54,750	3,204	15,951	
Total ..	2,702	102	† 713	2,091	15,540	3,92,189	1,30,086	9,148	1,19,532	
B.—Cultural Operations.										
* Ganjam ..	419	..	† 419	..	..	2,288	635	..	..	
Visagapatnam ..	44	..	† 5	39	..	233	3	..	..	
Godavari, Upper ..	829	..	..	829	..	2,225	830	..	148	
Do. Lower ..	2,402	..	..	2,402	..	2,359	1,032	..	..	
Kistna ..	8,603	24	† 2,424	1,203	..	† 7,634	† 3,208	9,002	† 50,396	
Kurnool, East ..	33	..	..	33	548	† 10,838	3,561	..	..	
Do. South ..	819	..	† 182	187	619	† 4,009	1,536	..	..	
Do. West ..	2,438	1,020	..	8,458	477	21,751	1,003	..	..	
Total ..	10,087	1,044	† 2,980	8,161	1,025	50,662	11,806	9,002	50,971	
CENTRAL CIRCLE.										
A.—Regular Plantations.										
Bellary ..	579	..	..	579	40	9,428	62,495	96	110	
Anantapur ..	..	..	..	..	..	..	..	..	..	
Guntur ..	2,822	..	181	2,641	298	48,286	82,344	9,361	37,847	
Cuddapah, West ..	10	..	..	30	..	560	..	..	..	
Do. East ..	145	..	..	145	23	168	351	631	2,786	
Nellore ..	3,960	..	..	3,960	1,167	1,66,705	16,615	68,918	6,35,699	
Chingleput ..	334	..	334	..	8	6,381	6,920	..	11,207	
Chittoor ..	60	..	..	60	626	..	..	19	..	
Total ..	7,911	..	515	7,396	28	2,21,878	1,16,925	79,826	6,87,582	
B.—Taungya Plantations—Nil.										
C.—Cultural Operations.										
Bellary ..	20,690	..	18,900	6,790	..	27,981	8,006	..	..	
Anantapur ..	196	164	..	360	126	399	19	..	..	
Guntur ..	..	..	..	..	..	..	..	..	..	
Cuddapah, West ..	1,718	..	1,713	..	..	..	..	..	..	
Do. East ..	..	..	..	..	..	..	..	..	..	
Nellore ..	116	..	..	116	129	..	..	..	..	
Chingleput ..	..	..	..	..	..	..	..	..	..	
Chittoor ..	267	69	18	308	97	..	..	..	..	
Total ..	22,982	223	16,831	7,671	225	26,380	3,016	..	..	
Grand Total ..	30,893	223	16,146	14,970	243	2,50,358	1,19,950	79,025	6,87,582	

* These will be omitted from future statements.
† Due to revision made with reference to B.P. Forest No. 49, dated 1st April 1916.
‡ Revised figures furnished by District Forest Officers.

- (a) Excludes 54 acres of Regular plantation belonging to Parakimedi Malis.
(b) Excludes Rs. 110 spent in Parakimedi Malis.
(c) Do. Rs. 17 do.
(d) Do. Rs. 277 do.

Area under artificial reproduction, 1915-16—cont.

District.	Area in acres.				Expenditure during the year.		Total expenditure from commencement.		Revenue during the year.	Total revenue from date of creation of plantation.
	On 1st July 1916	Added during the year.	Excluded during the year.	Area on 30th June 1916.	Creation.	Upkeep.	Creation.	Upkeep.		
SOUTHERN CIRCLE.										
A.—Regular Plantations.										
North Vellore ..	1,831.48	..	..	1,831.48	284	698	19,861	1,39,541	2,164	82,949
Trichinopoly ..	146	..	(a) 146	..	..	..	..	..	..	..
Madura ..	1,281.60	50	3	1,328.60	592	34	60,769	6,977	156	4,826
Tinnevely ..	5,322	..	..	5,322	..	10	6,368	1,766	..	..
Total ..	8,581.08	50	149	8,482.08	876	742	87,012	1,42,274	2,320	87,569
B.—Taungya Plantations.										
Tinnevely ..	23	..	..	23	6	..	11	13	..	..
Total ..	23	..	..	23	6	..	11	13	..	..
C.—Cultural Operations.										
North Vellore ..	840	..	..	840	3	..	66	98	1	579
South do ..	821.22	10	..	821.22	43	..	209	..	..	..
North Arcot ..	6,208	529	..	6,822	..	..	496	2,779	..	..
North Salem ..	143	..	..	143	..	..	8,928	..	..	..
South do ..	1,013	..	..	1,013	..	..	1,245	100	..	..
Tinnevely ..	3,904	95	..	3,999	116	434	5,466	6,202	..	..
Total ..	13,014.22	634	..	13,648.22	162	434	16,510	9,179	1	579
WESTERN CIRCLE.										
A.—Regular Plantations.										
Mangalore, South ..	52	..	..	52	..	..	32	1,367	..	516
Malabar, North ..	878	..	..	878	..	463	15,272	19,195	..	1,939
Do. South ..	6,474	..	..	6,474	178	5,304	5,38,120	6,39,983	1,32,253	20,11,084
The Nilgiris ..	1,743	..	..	1,743	..	1,227	6,462	8,11,229	38,410	6,12,733
Total ..	9,142	..	..	9,142	178	6,994	6,59,886	8,71,774	1,70,663	26,26,272
B.—Taungya Plantations.										
Malabar, North ..	762	30	..	782	..	106	..	10,928	555	5,532
The Nilgiris ..	19	..	..	19	..	185	367	3,364	..	..
Total ..	781	20	..	801	..	225	367	14,192	555	5,532
C.—Cultural Operations.										
Malabar, North ..	4,342	277	..	4,619	455	40	2,491	7,438	..	..
Kollegal ..	6,980	70	..	7,050	9	..	455	149	..	..
Coimbatore, North ..	59	115	32	142	65	..	191	..	..	..
Do. Central ..	1,590	..	..	1,590	..	..	1,832	143	..	..
Do. South ..	1,187	18	..	1,200	409	56	2,770	1,379	..	..
Total ..	14,168	475	32	14,601	928	96	7,789	9,109	..	..
Grand total ..	24,981	495	32	25,444	1,116	7,325	6,68,042	8,96,075	1,71,218	36,31,805
Total A Regular Plantations ..	28,336	162	1,977	27,111	16,617	15,449	12,60,945	12,61,059	2,61,156	35,20,765
B. Taungya ..	804	20	..	824	6	235	378	14,205	555	5,533
C. Cultural operations ..	60,241	2,376	18,643	48,974	2,350	2,266	1,03,641	33,119	9,009	51,550
Grand Total Presidency ..	89,381	2,558	20,620	71,909	18,973	17,940	13,64,364	13,08,383	2,70,714	35,77,838

(a) One hundred and forty-five acres transferred to the Public Works Department and 1 acre to South Arcot.
Note.—The areas have been re-classified as per instructions in B.P. Forest No. 49, dated 1st April 1916, in all divisions except North Malabar for which division the last year's figures have been adopted as the District Forest Officer has not yet classified the areas.

OUTTURN of Minor Forest Produce during the year 1916-17.

Circle.	Description of produce.	Produce removed or utilized					
		By Government Agency.		By purchasers.	By free-grantees.	By right-holders.	Total.
		Quantity.	Value.	Value.	Value.	Value.	Value.
Northern Circle	Bamboo	259,837	4,533	1,41,664	275	407	1,46,885
	Grazing and fodder grass	...	...	1,19,005	...	708	1,19,808
	Grass (thatch, koral, etc.)	18,099	190	698	30	...	918
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoy, etc.	7,481	4,365	32,116	...	...	36,461
	Horns, honey, wax, gum, resin, skins, etc.	...	...	715	...	...	715
	Tangedu, etc., barks and fibres.	108	21	33,094	1	...	33,116
	Stones, gravel, earth, etc.	1,125	5	4,088	...	...	4,093
	Leaves for platters	...	...	679	...	...	679
	Date and palmyra leaves, stacks, etc.	100	14	4	31	...	49
	Manure leaves and thorns	...	...	843	...	...	843
	Miscellaneous, including tree-tapping and tree-owners' fees.	13,285	3,719	83,577	57	23,071	1,10,424
	Total, minor produce only	38,129	8,314	2,74,919	119	23,869	3,07,121
Central Circle	Bamboo	1,773	13	17,501	147	...	17,481
	Grazing and fodder grass	...	...	3,21,843	...	138	3,21,981
	Grass (thatch) and koral, etc.	8,231	143	1,348	29	...	1,520
	Tamarind, soapnuts and gallnuts.	4,523	7,172	51,452	...	...	58,624
	Horns, honey, wax, gum, etc.	...	...	6,150	...	...	6,150
	Tangedu, vembadam, etc.	282	373	2,63,294	...	...	2,64,277
	Misc. stones, gravel, etc.	...	...	35,750	22	...	35,772
	Manure leaves, thorns, etc.	60	23	5,610	...	...	5,633
	Date, palmyra leaves, etc.	...	...	2,845	262	...	3,207
	Miscellaneous, including tree-tapping and tree-owners' fees.	304	776	82,819	...	...	83,695
	Total	8,150	8,487	4,40,918	313	...	4,42,718
	Grand Total	...	8,500	7,80,062	480	138	7,81,180
Southern Circle	Bamboo	4,848	289	1,10,692	454	...	1,11,435
	Grazing and fodder grass	...	...	1,29,467	5,722	...	1,35,189
	Grass (thatch, koral, etc.)	1,255	10	7,051	6	61	7,127
	Tamarind, soapnuts, etc.	1	13	4,782	...	...	4,795
	Tamarind, soapnuts, gallnuts, etc.	166	146	8,029	...	...	8,184
	Horns, honey, wax, gum, etc.	1	21	416	...	...	437
	Avaram, vembadam, etc., barks and fibres.	...	...	17,142	...	...	17,142
	Stones, gravel, earth, etc.	22,000	31	12,284	...	...	12,315
	Manure leaves, thorns, etc.	321	5	22,622	...	...	22,943
	Date, palmyra leaves, etc.	...	...	2,008	90	...	2,098
	Miscellaneous, including tree-tapping fees	2,478	287	1,32,026	2	1,054	1,33,369
	Total	...	741	1,88,345	6,273	1,117	1,95,735
Western Circle	Bamboo in number	50,343	1,005	33,727	83	...	33,810
	Grazing and fodder grass	...	...	78,658	870	...	79,528
	Other produce	...	...	...	...	...	...
	Grass (thatch, koral, etc.)	365	48	344	...	...	397
	Tamarind, turmeric, pepper, cardamoms, etc.	14	53	1,674	...	...	1,727
	Total	...	...	...	...	...	...
	Bamboo in number	...	...	...	...	...	...
	Grazing and fodder grass	...	...	...	...	...	...
	Other produce	...	...	...	...	...	...
	Grass (thatch, koral, etc.)	...	...	...	...	...	...
	Tamarind, turmeric, pepper, cardamoms, etc.	...	...	...	...	...	...
	Total	...	...	...	...	...	...

Outturn of Minor Forest Produce during the year 1916-17—cont.

Circle.	Description of produce.	Produce removed or utilized					
		By Government Agency.		By purchasers.	By free-grantees.	By right-holders.	Total.
		Quantity.	Value.	Value.	Value.	Value.	Value.
Northern Circle	Other produce—cont.	...	...	...	...	...	...
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoy, etc.	1,668	3,902	8,286	...	...	12,175
	Horns, honey, wax, gum, resin, skins, etc.	541	2,872	1,321	...	...	4,193
	Avaram, vembadam, etc., barks and fibres.	100	25	2,875	...	...	2,900
	Stones, gravel, earth, etc.	...	...	1,198	...	...	1,198
	Manure leaves, thorns, etc.	...	...	441	...	...	441
	Date and palmyra leaves	...	...	60	...	...	60
	Miscellaneous	529	912	12,826	...	...	13,737
	Total	3,028	7,818	29,098	5	...	36,831
	Leased forests.	...	...	...	...	...	...
	Bamboo in number	61,145	3,867	1,585	...	...	5,452
	Grazing and fodder grass	...	...	662	...	...	662
Central Circle	Other produce.	...	...	...	...	...	...
	Grass (thatch, koral, etc.)	29	49	110	...	...	152
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoy, etc.	48	156	...	...	...	156
	Horns, honey, wax, gum, resin, skins, etc.	...	...	15	...	...	15
	Stones, gravel, earth, etc.	10	21	...	...	...	21
	Miscellaneous	87	226	162	...	...	378
	Total	...	4,093	2,399	...	...	6,492
	Reserved lands.	...	...	...	...	...	...
	Other produce.	...	...	...	...	...	...
	Grass (thatch, koral, etc.)	...	...	...	...	...	...
	Unreserved lands.	...	...	...	...	...	...
	Bamboo in number	...	...	536	5	...	541
Southern Circle	Other produce.	...	...	...	...	...	...
	Catechu	1,252	12,474	...	...	...	12,474
	Grass (thatch, koral, etc.)	...	...	1,054	...	...	1,054
	Tamarind, soapnuts, gallnuts, nux-vomica, sheakoy, etc.	...	...	1,824	...	...	1,824
	Avaram, vembadam, etc., barks and fibres.	...	...	491	31	...	522
	Stones, gravel, earth, etc.	...	...	14	...	...	14
	Manure leaves, thorns, etc.	...	...	198	6	...	204
	Date and palmyra leaves	...	...	25,302	...	...	25,302
	Miscellaneous	...	...	...	...	...	...
	Total	1,252	12,474	28,888	37	...	41,399
	At a rate for the Circle.	...	...	...	...	...	...
	Bamboo in number	111,911	5,772	33,841	88	...	41,701
Western Circle	Grazing and fodder grass	...	...	79,320	870	...	80,190
	Other produce	4,437	20,515	58,048	45	...	78,611
	Grand total	...	26,290	1,72,209	1,003	...	2,00,502
	Total, Presidency, bamboo	378,360	10,807	3,05,498	987	407	3,17,499
	Grazing and fodder grass	...	...	8,89,555	6,692	938	8,97,183
	Other produce	75,572	37,794	8,62,366	574	24,186	9,25,520
	Grand total, Presidency	...	48,101	18,58,089	8,153	25,529	19,40,182

Excludes Rs. 9,455 realized from the minor forest produce contractors in the Tirukaimedi, Malaiya, Gungam districts.

ANNUAL REPORT OF THE

ANNUAL FORM No. 78.

Forest Department, Madras Presidency.

Account of timber and other produce cut or collected by Government Agency and brought to depôt, sold locally or otherwise disposed of during 1915-16.

District.	Balance at commencement of the year in forest and sale depôts.	Balance at close of the year in forest and sale depôts.	Total.	Disposed of during the year.	Balance at commencement of the year in forest and sale depôts.
TIMBER (CUBIC FEET).					
Northern Circle.					
Ganjam	14,290	96,456	110,746	54,775	56,971
Vizagapatnam	88	2,245	2,313	6-5	1,623
Godavari, Upper	2,931	38,887	41,818	29,322	11,996
Do. Lower	327	34,999	35,326	13,711	21,615
Kistna	9,361	274	9,635	274	9,361
Kurnool, East	493	9,361	9,854	10,141	2,020
Do. South	14,441	3,396	17,837	1,822	3,173
Do. West	..	86,839	86,839	88,031	12,149
Total	36,671	271,447	308,118	198,561	109,557
Central Circle.					
Bellary	439	31	470	81	389
Anantapur	20	574	594	574	..
Guntur	1,108	250	1,358	345	1,009
Cuddapah, West	1,289	16,747	18,036	17,478	571
Do. East	326	1,275	1,601	1,528	73
Nellore	64	439	503	393	100
Chingleput	..	494	494	494	..
Total	3,219	19,816	23,035	20,900	2,135
Southern Circle.					
Vellore, North	20	85	105	..	..
Do. South	8,904	4,928	13,832	5,923	7,909
Arcoot, South	592	692	1,284	443	140
Salom, North	834	8,920	9,754	2,817	6,937
Do. South	762	1,899	2,661	2,545	116
Trichinopoly	29	168	197	161	36
Madura	1,150	2,672	3,822	3,098	724
Tinnevely	412	8,641	9,053	1,998	7,055
Total	7,213	17,281	24,494	18,090	6,404
Western Circle.					
Mangalore, North	4,676	4,667	9,343	4,154	5,189
Do. South	6,867	8,961	15,828	4,371	11,457
Malabar, North	16,856	116,766	133,622	98,831	34,791
Do. South	169,700	108,894	278,594	71,392	207,202
The Nilgiris	17,616	47,898	65,514	12,018	53,496
Kollegal	803	1,647	2,450	827	1,623
Coimbatore, North	4,398	7,469	11,867	362	11,505
Do. Central	1,288	2,096	3,384	31	3,353
Do. South	382,604	15,616	398,220	45,863	352,357
Total	604,718	311,945	916,663	268,569	648,094
Grand total, Presidency	650,841	670,489	1,321,330	508,110	813,220

- (a) Used departmentally.
 (b) Excess or deficit in conversion or measurement.
 (c) Sent to the Game Forest Museum.
 (d) Excludes 116 cubic feet of timber belonging to Pariah.
 (e) Do. 1,502 do.
 (f) Do. 1,721 do.
 (g) Do. 1,116 do.
 (h) Do. 695 do.

FOREST DEPARTMENT

Account of timber and other produce cut or collected by Government Agency and brought to depôt, sold locally or otherwise disposed of during 1915-16—cont.

District.	Balance at commencement of the year in forest and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance on hand at close of the year in forest and sale depôts.
FUEL (CUBIC FEET).					
Northern Circle.					
Ganjam	1,050	(e) 24,420	(f) 25,470	(g) 6,840	(h) 18,630
Vizagapatnam	189	68,960	69,149	69,149	..
Godavari, Upper	2,401	2,808	5,209	4,224	985
Do. Lower	..	13,048	13,048	13,048	..
Kistna	..	10,300	10,300	10,300	..
Kurnool, East	..	46,450	46,450	23,379	23,071
Do. South	164,184	300	164,484	164,484	..
Do. West	191,558	482,374	673,932	485,490	188,442
Total	329,382	648,750	978,132	777,515	200,617
Central Circle.					
Bellary	329	4,760	5,089	4,000	1,089
Anantapur	..	..	..	..	..
Guntur	..	..	..	..	..
Cuddapah, West	4,309	2,400	6,709	2,100	4,609
Do. East	2,825	9,503	12,328	11,629	700
Nellore	5,579	4,587	10,166	6,895	3,271
Chingleput	..	2,011	2,011	2,011	..
Chittoor	..	1,060	1,060	628	432
Total	11,125	24,321	35,446	26,964	8,482
Southern Circle.					
Vellore, North	4	10,618	10,622	10,622	..
Do. South	6,300	1,647	7,947	7,507	440
Arcoot, South	110	2,987	3,097	3,281	..
Salom, North	(a)+150	2,700	2,850	1,688	1,162
Do. South	105	..	105	105	..
Trichinopoly	7,110	22,285	29,395	28,352	1,043
Madura	(e)-150	4,720	4,570	220	4,350
Tinnevely	4,125	25,575	29,700	28,904	796
Total	18,160	70,432	88,592	80,756	7,836
Western Circle.					
Mangalore, North	24,582	13,199	37,781	24,350	13,431
Do. South	59,526	32,516	92,042	62,516	29,526
Malabar, North	21,280	..	21,280	12,480	9,800
Do. South	6,764	5,330	12,094	8,122	3,972
The Nilgiris	213,205	445,508	658,713	431,977	226,736
Kollegal	104,280	107,500	211,780	82,880	128,900
Coimbatore, North	28,545	..	28,545	15,232	13,313
Do. Central	1,682	16,925	18,607	1,115	17,492
Do. South	1,155	..	1,155	40	1,115
Total	45,429	622,472	1,067,901	659,672	408,229
Grand total, Presidency	829,996	1,365,975	2,195,971	1,544,907	651,064

* The District Forest Officer, Vizagapatnam, reports that the difference between the opening balance of the current year and closing balance of the previous year is due to the conversion of charcoal into its equivalent in fuel as per footnote of the revised Form No. 78. One bag of charcoal is taken as equivalent to 16 cubic feet. The factor of conversion of the stacked cubic feet to solid cubic feet is taken as 14 and all figures are entered accordingly in Forms Nos. 78 and 79.

- (a) Represents transfer from Trichinopoly to North Arcot on account of Tanjore Range.
 (b) Used departmentally.
 (c) Written off the account.
 (d) Transfers between divisions.
 (e) Excludes 19,700 c.ft. of fuel belonging to the Pariahkudi Malahs.
 (f) Do. do. do.
 (g) Excludes 11,160 c.ft. do. do.
 (h) Do. 8,510 c.ft. do. do.

Account of timber and other produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1915-16—cont.

District.	Balance at commencement of the year in forest and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance on hand at close of the year in forest and sale depôts.
BAWBOOS (SUMMER).					
<i>Northern Circle.</i>					
Ganjam	600	10,646	11,246	10,246	1,000
Vizagapatnam	1,876	92,586	94,462	93,940	522
Godavari, Upper	426	4,927	5,353	4,283	1,070
Do. Lower	..	30,146	30,146	26,639	3,507
Kistna	..	..	..	..	..
Kurnool, East	486	112,921	113,407	102,461	11,946
Do. South	1,600	4,718	6,318	6,313	5
Do. West	..	2,900	2,900	2,900	..
Total	2,482	259,817	262,299	246,701	17,622
<i>Central Circle.</i>					
Bellary	328	..	328	328	..
Anantapur	..	..	..	..	..
Guntur	..	..	..	..	..
Undnapah, West	..	..	..	..	..
Do. East	1,310	64	1,374	954	420
Nellore	..	..	..	..	..
Chingleput	..	9	9	..	9
Chittoor	..	1,700	1,700	1,700	..
Total	1,638	1,773	3,411	2,982	429
<i>Southern Circle.</i>					
Vellore, North	..	29	29	24	5
Do. South	..	..	..	..	..
Arcoot, South	..	1,029	1,029	1,027	2
Salem, North	..	3,047	3,047	2,447	600
Do. South	300	520	820	599	221
Trichinopoly	..	..	..	..	..
Madura	..	..	..	..	..
Tinnevely	..	228	228	228	..
Total	300	4,848	5,148	4,326	822
<i>Western Circle.</i>					
Mangalore, North	75	8,490	8,565	2,828	171
Do. South	811	757	1,568	(a) 516	10
Malabar, North	..	..	..	(b) 12	..
Do. South	4,320	14,616	18,936	(c) 18,497	..
Do. South	34,039	76,244	110,283	(d) 46,267	5,217
Kollegal	18,614	12,372	30,986	(e) 2,146	..
Coimbatore, North	..	..	..	(f) 107	..
Do. Central	210	2,960	3,170	(g) 30,240	..
Total	48,619	111,911	160,530	(h) 2,420	..
Grand total, Presidency	55,043	376,369	431,412	362,617	79,794

(a) Used departmentally.

(b) Written off the accounts.

Account of timber and other produce cut or collected by Government Agency and brought to depot, sold locally or otherwise disposed of during 1915-16—cont.

District.	Balance at commencement of the year in forest and sale depôts.	Received during the year.	Total.	Disposed of during the year.	Balance on hand at close of the year in forest and sale depôts.
MINOR PRODUCE (MAUNDS OF 28 LB.).					
<i>Northern Circle.</i>					
Ganjam	3	155	158	75	83
Vizagapatnam	5,453	2,937	8,390	7,473	917
Godavari, Upper	40,163	8,126	48,289	11,563	36,726
Do. Lower	..	1,007	1,007	1,007	..
Kistna	202	408	610	436	174
Kurnool, East	1,776	7,905	9,681	8,683	998
Do. South	4,813	4,813	9,626	9,626	..
Do. West	720	13,649	14,369	14,369	..
Total	48,207	38,182	86,389	39,156	47,233
<i>Central Circle.</i>					
Bellary	8	12	20	18	2
Anantapur	565	..	565	565	..
Guntur	..	..	..	..	..
Cuddapah, West	240	3,231	3,471	2,827	644
Do. East	884	4,907	5,791	5,791	..
Nellore	..	..	..	..	..
Chingleput	..	..	..	..	..
Chittoor	..	..	..	..	..
Total	1,997	8,150	10,147	7,254	2,893
<i>Southern Circle.</i>					
Vellore, North	245	152	397	336	61
Do. South	..	87	87	21	66
Arcoot, South	493	2,349	2,842	2,788	54
Salem, North	(a) + d	..	..	..	..
Do. South	..	..	..	..	..
Trichinopoly	323	36	359	358	1
Madura	(e) - 6	10	10	10	..
Tinnevely	3	23,589	23,592	23,266	326
Total	1,069	26,223	27,292	26,779	513
<i>Western Circle.</i>					
Mangalore, North	..	1,332	1,344	1,223	121
Do. South	(f) 12	20	32	(g) 12	20
Malabar, North	..	..	..	..	..
Do. South	5	..	5	..	..
The Nilgiris	1	697	698	302	396
Kollegal	1,834	1,157	2,991	(h) 856	2,135
Coimbatore, North	1,597	251	1,848	(i) 1,728	120
Do. Central	5	77	82	73	9
Do. South	102	833	935	(j) 709	226
Total	3,544	4,481	8,025	7,131	894
Grand total, Presidency	54,507	77,063	131,570	106,320	25,250

* Revised figure.
 (1) Excludes 47 quarters of minor forest produce belonging to the Parakkimedi malikah.
 (2) Do. do. do. do.
 (3) Do. do. do. do.
 (4) Represents transfer from Trichinopoly to South Arcot on account of Tanjore Range.
 (5) Used departmentally. (6) Written off the accounts.
 (7) Sent to the Madras Industrial Exhibition. (8) Transfers between divisions.
 (9) Two hundred and eighty-seven coconuts and 4 ivory pieces.

Forest Department, Mysore Presidency.
STATEMENT showing the value of timber and other produce at sale depôts for 1915-16.

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.
Northern Circle.									
Ganjam	Timber ..	..	..	Rs.	..	..	Rs.	Rs.	Rs.
	Fuel ..	..	(a) 8,025	(d) 6,200	..	(d) 8,313	(d) 5,758	(d) ..	(d) ..
	Bamboo ..	..	..	..	..	(d) 480	(d) 12	(d) ..	(d) ..
	Minor produce ..	MDS. 3	..	26	MDS. 82	(d) ..	(d) 1,110	(d) 1,118	..
Vizagapatam.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	68	20	..	1,628	1,049	1,020	..
	Bamboo ..	1,875	18	59	..	..	..	..	..
	Minor produce ..	..	..	32	MDS. 12	..	6	5	..
Godavari, Upper.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	..	..	..	..	..	..	..
	Minor produce ..	..	..	..	..	..	..	..	..
Godavari, Lower.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	..	..	..	31,615	10,875	10,875	..
	Minor produce ..	..	..	..	3,607	67	67	..	..
Ristna	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	..	..	..	..	..	..	..
	Minor produce ..	..	..	..	..	..	..	..	..
Kurnool, East.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	..	..	..	..	..	..	..
	Minor produce ..	..	..	..	..	..	..	..	..
Kurnool, South.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	498	627	..	2,172	877	800	6,549
	Bamboo ..	1,000	164,184	6,552	..	20	..	..	..
	Minor produce ..	..	..	21	..	..	..	..	..
Kurnool, West.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	1,462	275	..	1,454	242	..	..
	Minor produce ..	MDS. 637	..	283	MDS. 4,990	..	806	618	..
Central Circle.									
..	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	..	..	..	..	..	..	..
	Minor produce ..	MDS. 884	..	720	MDS. 2,218	..	1,049	329	..
Southern Circle.									
Vellora, North.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	20	4	..	..	..	..	..
	Bamboo ..	..	40	2	..	..	..	..	..
	Minor produce ..	MDS. 121	..	..	MDS. 61	..	3	..	..
Vellora, South.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	2,052	47,024	..	2,318	49,238	1,214	..
	Minor produce ..	MDS. 6	..	3	..	..	..	..	..
Salem, North.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	331	1,372	..	417	2,016	748	..
	Minor produce ..	..	..	..	..	..	..	..	..
Salem, South.	Timber ..	..	..	..	..	..	..	..	..
	Fuel ..	..	..	..	..	..	..	..	..
	Bamboo ..	..	763	..	..	1,012	..	..	..
	Minor produce ..	300	106	..	..	..	..	..	..
..									

(A)	Do.	Rh. 110	do.	do.
(B)	Do.	Rh. 260	do.	do.
(C)	Do.	47 quarters	do.	do.
(D)	Do.	Rh. 100	do.	do.

District.	Description of timber or produce.	On hand at commencement of the year.			On hand at close of the year.			Difference in value.	
		Number.	Cubic feet.	Value.	Number.	Cubic feet.	Value.	In favour of the year.	Against the year.
	<i>Southern Circle—cont.</i>			RS.			RS.	RS.	RS.
Trichinopoly	Timber	..	39	589	..	35	17	..	573
	Fuel	..	7,440 150	375 3	..	1,236	30	..	242
	Minor produce ..	..	328 — 6	155 — 3	..	..	..	..	152
Madura ..	Timber	..	1,180	424	..	724	215	..	209
	Fuel	..	..	..	..	4,500	281	281	..
Tinnevely ..	Timber	..	412	764	..	2,055	807	23	..
	Fuel	..	4,125	237	..	736	15	..	222
	Minor produce ..	..	3	11	..	326	29	18	..
	<i>Western Circle.</i>								
North Nangalore.	Timber	..	3,345	1,890	..	2,722	2,351	461	..
	Bamboos	..	..	..	..	172	19	19	..
North Malabar.	Timber	..	1,401	1,009	..	232	116	..	893
	Fuel	..	2,240	196	..	..	..	..	196
	Bamboos	..	1,441	130	..	..	..	..	130
	Minor produce ..	..	5	228	..	..	..	..	228
South Malabar.	Timber	..	75	94	..	355	26	..	63
	Fuel	..	..	..	..	22	5	5	..
	Bamboos	..	..	..	..	9,808	495	495	..
	Minor produce ..	..	..	..	..	(6)	9	9	..
The Nilgiris.	Timber	..	830 17,329	181 6,792	..	53,493	23,315	16,362	..
	Fuel	..	23,958	2,461	..	36,307	3,077	616	..
	Minor produce ..	..	..	..	..	40	240	240	..
Kollagal ..	Timber	..	650	350	..	900	325	..	135
	Bamboos	..	10,053	758	..	56	1	..	767
	Minor produce ..	..	1,304	1,530	..	370	740	..	750
North Coimbatore.	Timber	..	849	6,712	..	471	3,010	..	2,703
	Minor produce ..	..	1,507	2,248	..	71	500	..	1,743
	Minor produce ..	..	5	401	..	..	..	..	401
South Coimbatore.	Timber	..	240	295	..	24,402	38,544	38,249	..
	Minor produce ..	..	..	..	..	251	574	574	..
ABSTRACT.									
Northern Circle.	Timber	..	9,591	6,756	..	34,328	18,509	11,753	..
	Fuel	..	166,842	6,386	..	2,014	257	..	6,639
	Bamboos	..	2,975	53	..	8,607	67	14	..
	Minor produce ..	..	640	324	..	5,084	1,960	1,336	..
	Total value ..	..	..	14,019	..	..	20,793	6,774	..
Central Circle.	Timber	..	..	..	..	..	..	..	..
	Fuel	..	..	..	..	..	..	..	..
	Bamboos	..	..	..	..	..	..	..	..
	Minor produce ..	..	884	790	..	2,218	1,049	329	..
Southern Circle.	Timber	..	5,656	51,553	..	5,666	51,611	558	..
	Fuel	..	12,110	541	..	7,490	340	..	301
	Bamboos	..	300	7	..	891	35	28	..
	Minor produce ..	..	522	250	..	357	107	..	143
	Total value ..	..	..	51,851	..	..	52,093	242	..
Western Circle.	Timber	..	23,129	16,314	..	35,555	62,487	45,173	..
	Fuel	..	31,193	2,657	..	86,229	3,082	425	..
	Bamboos	..	11,493	838	..	10,036	515	..	578
	Minor produce ..	..	2,911	4,402	..	782	3,063	..	2,389
	Total value ..	..	..	24,261	..	..	68,147	48,886	..
	Grand Total, Presidency.	..	..	90,851	..	..	1,42,082	51,231	..

(8) Two hundred and eighty-seven cocoanuts.

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SUMMARY of expenditure of the different districts for the Forest year 1915-16.

Head of account.	Direction.	Ganjam.	Vijayapatt.	Godavari, Upper.	Godavari, Lower.	Kistna.	Karnool East.	Karnool South.	Karnool West.	
NORTHERN CIRCLE.										
I. Refunds and drawbacks—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Forest refunds ..	668	24	69	65	904	269	296	364		
A. Conservancy and Works.										
I. Timber, etc., removed by Government Agency—										
(a) Timber ..	4,455	174	4,439		367	1,558	93	12,021		
(b) Firewood and charcoal ..	200	1,456	92	158	265	435		6,360		
(c) Bamboos ..	50	820	3			1,107	1	9		
(d) Sandalwood ..										
(e) Grass and other minor produce ..	798		35	11	203	2,942	109	8,908		
II. Timber, etc., removed by consumers, etc.	5,657	4,378	3,478	12,169	1,344	6,061	6,351	9,314		
III. Confiscated forest produce, drift and waif-wood.	24			1,709	2		36	63		
IV. Forests not managed by Government										
V. Rent of leased forests, etc.										
VI. Live-stock, stores, tools and plant—										
(a) Purchase of cattle ..			474							
(b) Feed and keep of cattle ..	3,402	1,126	1,786			20		3,433		
(c) Stores, tools and plant ..	109	76	214	2,319	1,021	396	121	604		
VII. Communications and buildings—										
(a) Roads and bridges ..	4,372	289	3,804	3,018	2,643	11,236	5,445	2,559		
(b) Buildings ..	6,855	1,522	1,603	5,103	679	6,167	2,569	2,282		
(c) Other works ..	94		921	816	80	987	172	558		
VIII. Organisation, improvement and extension of forests—										
(a) Demarcation ..	570	338	963	1,120	199	398	324	604		
(b) Cost of forests settlements, compensation for lands and rights.	57			136						
(c) Surveys—										
(1) Local surveys ..	37	641	119	1,564	1,266	1,018	1,167	1,631		
(2) Surveys of India ..										
(d) Working plans ..	20									
(e) Sowing and planting ..	896	112	16	124		540	661	21,335		
(f) Protection from fire ..	5,020	1,612	7,910	5,035	1,480	11,233	11,600	13,443		
(g) Other works ..	73			1,441	5,912	2,782	1,697	3,771		
IX. Miscellaneous—										
(a) Law charges ..	443	451	9		102	197	212	399		
(b) Other charges ..										
Total, A. Conservancy and Works ..	1,482	32,933	12,509	28,840	36,737	15,798	47,308	31,438	31,824	2,06,242
B. Establishments.										
I. Salaries—										
(a) Conservators ..	21,737									
(b) Superior officers ..	7,473	13,042	3,446	5,300	5,006	7,506	6,006	7,004	11,004	
(c) Subordinate establishments, etc. ..	610	21,444	8,668	14,699	16,187	8,582	16,686	26,069	30,099	
(d) Office establishments ..	9,617	8,057	4,042	6,376	7,042	3,778	6,058	5,904	7,352	
(e) Deputation, etc., allowances ..										
II. Travelling allowances—										
(a) Conservators ..	2,620	618		300	285					
(b) Superior officers ..	545	3,061	1,423	1,587	1,379	1,480	1,625	1,363	2,486	
(c) Subordinate establishments, etc. ..	106	5,817	1,979	4,554	4,965	3,799	5,350	7,368	6,559	
(d) Office establishment ..	1,189	2,268	886	1,496	1,175	1,141	1,749	1,973	1,667	
III. Contingencies—										
(a) Route, rates and taxes ..	133	131	22	246	432	155	29	88	108	
(b) Official postage and service telegrams ..	1,030	1,306	760	991	1,124	1,125	921	873	1,457	
(c) Telephone charges ..										
(d) Sundries ..	4,958	1,993	1,234	1,823	5,088	1,365	1,849	1,612	1,197	
Total, B. Establishments ..	50,017	57,317	22,448	39,691	48,328	30,210	39,260	47,408	53,166	
Grand Total of Expenditure A and B ..	61,502	90,250	34,957	67,441	85,065	44,103	86,568	78,846	84,990	

(a) Excludes Rs. 9,804-15-7 spent under A. Conservancy works in Parikimedi Malaha.
 (b) Excludes Rs. 22,457-1-10 spent under B. Establishment in Parikimedi Malaha.

Summary of expenditure of the different districts for the Forest year 1915-16—cont.

Budget heads.	Direction.	Bellary.	Anantapur.	Guntur.	Chittoor.	Chingelput.	Nelore.	Chittoor.	Total
CENTRAL CIRCLE.									
Refunds and Drawbacks ..	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
	1,335	877	1,550	619	352	1,428	328	1,824	3,604
A. Conservancy and Works.									
I. Timber and other produce removed from the forests by Government Agency—									
(a) Timber ..		106		12				7	117
(b) Firewood and charcoal ..									
(c) Bamboos ..		124							124
(d) Sandalwood ..									
(e) Grass and other minor produce ..									
II. Timber and other produce removed from the forests by consumers or purchasers.									
III. Confiscated drift and waif-wood ..		2,993	1,771	4,304	4,866	9,337	2,422	3,219	2,538
IV. Forests not managed by Government—									
(a) Shared and private forests ..		2	4		14	26			7
V. Rent of leased forests and payments to shareholders in forests managed by Government.									
VI. Live-stock, stores, tools and plant—									
(a) Purchase of cattle ..									
(b) Feed and keep of cattle ..		183	179	178	155	136	334	1,784	151
(c) Stores, tools and plant ..									
II. Communications and buildings—									
(a) Roads and bridges ..		870	731	276	1,819	5,288	1,691	667	1,956
(b) Buildings ..		865	2,753	1,317	2,841	7,124	2,962	1,412	2,187
(c) Other works ..		30	98	186	168	290	12	74	6
III. Demarcation, improvement and extension of forests—									
(a) Demarcation ..		270	1,163	481	294	1,488	967	499	1,628
(b) Cost of forest settlement; compensation for land and rights.			462		162	781	— 73		1,822
(c) Surveys—									
(1) Local ..		892	1,516	486	380	375	610	1,019	386
(2) India ..									
(d) Working plans ..									
(e) Sowing and planting ..		40	147	248			507	1,286	8
(f) Protection from fire ..		3,909	5,057	15	4,390	5,588	1,230	942	1,249
(g) Other works ..		11,608	9,271	9,868	4,287	5,771	5,433	8,613	10,942
X. Miscellaneous—									
(a) Law charges ..		261		14	117	68	374	— 355	41
(b) Other charges ..									
Total, A. Conservancy and Works ..	1,386	30,411	21,799	17,467	18,550	37,360	30,447	16,231	23,324
B. Establishments.									
I. Salaries—									
(a) Conservators ..		16,123							19,128
(b) Superior officers ..		10,974	17,903	4,100	7,067	8,047	11,827	17,780	4,643
(c) Subordinate Forest and Depot establishments ..		1,410	18,030	15,012	11,426	12,900	21,729	19,677	2,767
(d) Office establishments ..		7,947	5,924	5,282	5,831	4,154	6,399	12,535	3,428
(e) Deputation and special allowances ..									
(f) Exchange compensation allowances ..									
II. Travelling allowances—									
(a) Conservators ..		2,883							2,888
(b) Superior officers ..		817	2,612	1,520	1,364	1,264	2,041	2,212	1,568
(c) Subordinate Forest and Depot establishments ..		124	5,316	4,320	3,970	4,714	5,762	5,981	2,414
(d) Office establishments ..		963	1,313	850	1,090	674	1,055	2,936	1,178
III. Contingencies—									
(a) Contract contingencies ..		1,277	3,006	2,300	1,760	1,339	2,216	3,391	1,224
(b) Non-contract contingencies ..		2,480	766	306	146	276	233	117	80
(c) Grain compensation allowance ..		812		2	976	1,130	1,657	511	647
Total, B. Establishments ..	47,825	54,761	38,787	33,868	30,407	52,419	64,940	22,617	40,586
Grand Total of Expenditure A and B ..	49,119	85,172	55,586	51,335	48,957	89,779	85,387	38,848	63,910

ANNUAL REPORT OF THE

FOREST DEPARTMENT

Summary of expenditure of the different districts for the Forest year 1915-16—cont.

Budget heads.	Direction.	Working- plans office, Southern Circle.	Valere, North.	Valere, South.	Arret, South.	Salun, North.	Salun, South.	Tyabnapoly.	Madura.	Total.
Southern Circle.										
I. Refunds and Drawbacks.										
II—Forests.										
A. Conservancy and Works.										
I. Timber and other produce removed from the forests by Government Agency—										
(a) Timber										
(b) Firewood and charcoal										
(c) Bamboos										
(d) Sandalwood										
(e) Grass and other minor produce										
II. Timber and other produce removed from the forests by consumers or purchasers.										
III. Confiscated, drift and waif-wood										
IV. Forests not managed by Government—										
(a) Shared and private forests										
V. Rent of leased forests and payments to shareholders in forests managed by Government.										
VI. Live-stock, stores, tools and plant—										
(a) Purchase of cattle										
(b) Feed and keep of cattle										
(c) Stores, tools and plant										
VII. Communications and buildings—										
(a) Roads and bridges										
(b) Buildings										
(c) Other works										
VIII. Demarcation, improvement and extension of forests—										
(a) Demarcation										
(b) Cost of forest settlement; compensation for land and rights.										
(c) Surveys—										
Local										
India										
(d) Working plans										
(e) Sowing and planting										
(f) Protection from fire										
(g) Other works										
IX. Miscellaneous—										
(a) Law charges										
(b) Other charges										
Total, A. Conservancy and Works										
B. Establishment.										
I. Salaries—										
(a) Conservators										
(b) Superior officers										
(c) Subordinate Forest and Depot establishments										
(d) Office establishments										
(e) Deputation and special allowances										
(f) Exchange compensation allowances										
II. Travelling allowances—										
(a) Conservators										
(b) Superior officers										
(c) Subordinate Forest and Depot establishments										
(d) Office establishments										
III. Contingencies—										
(a) Rents, rates and taxes										
(b) Service postage and telegrams										
(c) Sundries										
Total, B. Establishment										
Grand Total of Expenditure A and B										

Summary of expenditure of the different districts for the Forest year 1915-16—cont.

Budget heads.	Direction.	South Canara.	North Mangalore.	South Mangalore.	North Malabar.	South Malabar.	The Nilgiris.	Kollegal.	North Cannalore.	Central Cannalore.	South Cannalore.	Working- plans office.	Total.
Western Circle.													
I. Refunds and Drawbacks.													
A. Conservancy and Works.													
I. Timber and other produce removed from the forests by Government Agency—													
(a) Timber													
(b) Firewood and charcoal													
(c) Bamboos													
(d) Sandalwood													
(e) Grass and other minor produce													
II. Timber and other produce removed from the forests by consumers or purchasers.													
III. Confiscated, drift and waif-wood.													
IV. Revenue from forests not managed by Government.													
V. Rent of leased forests and payments to shareholders in forests managed by Government.													
VI. Live-stock, stores, tools and plant—													
(a) Purchase of cattle													
(b) Feed and keep of cattle.													
(c) Stores, tools and plant.													
VII. Communications and buildings—													
(a) Roads and bridges													
(b) Buildings													
(c) Other works													
VIII. Demarcation, improvement and extension of forests—													
(a) Demarcation													
(b) Cost of Forest Settlement; compensation for land and rights.													
(c) Surveys—													
Local													
India													
(d) Working plans													
(e) Sowing and planting													
(f) Protection from fire													
(g) Other works													
IX. Miscellaneous—													
(a) Law charges													
(b) Other charges													
Total, A. Conservancy and Works													
B. Establishment.													
I. Salaries—													
(a) Conservators													
(b) Superior officers													
(c) Subordinate Forest and Depot establishments													
(d) Office establishments													
(e) Deputation and special allowances													
(f) Exchange compensation allowances													
II. Travelling allowances—													
(a) Conservators													
(b) Superior officers													
(c) Subordinate Forest and Depot establishments													
(d) Office establishments													
III. Contingencies—													
(a) Rents, rates and taxes													
(b) Service postage and telegrams													
(c) Sundries													
Total, B. Establishment													
Grand Total of Expenditure A and B													

* For June 1916. Related to the Southern Circle.

ANNUAL REPORT OF THE

SUMMARY of receipts and expenditure during 1915-16 for each Circle and for the Presidency
compiled in the Board's office from the Conservators' statements.

Detailed statement of the Forests office from the Conservators' statements.						
Budget heads.	Northern Circle.	Central Circle.	Southern Circle.	Western Circle.	Grand total, Presidency.	
					1915-16.	1914-15.
RECEIPTS.						
I. Timber and other produce removed from the forests by Government Agency—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
(a) Timber	52,198	949	2,764	3,01,021	3,58,930	3,15,185
(b) Firewood and charcoal ..	18,226	2,567	2,464	46,254	69,511	1,00,460
(c) Bamboos	4,701	15	295	9,254	15,465	11,971
(d) Sandalwood	7,847	1,135	1,20,143	1,17,978	2,47,266	1,70,169
(e) Grass and other minor produce ..	82,271	8,889	1,38,193	4,55,259	37,508	51,185
Total, I	165,243	12,555	1,42,869	4,65,259	7,10,612	6,60,898
II. Timber and other produce removed from the forests by consumers, etc.—						
(a) Timber	88,944	84,516	61,698	39,737	2,80,785	3,52,912
(b) Firewood and charcoal ..	1,02,341	1,59,621	2,54,714	63,361	5,80,037	8,99,785
(c) Bamboos	1,38,580	14,350	1,18,876	34,769	3,09,485	2,47,300
(d) Grazing and fodder grass ..	1,19,006	2,14,777	1,99,467	79,322	6,86,571	6,26,334
(e) Other produce	1,13,707	3,50,123	1,91,156	68,245	7,19,262	6,00,010
(f) Tree-owners' fees	40,019	74,589	14,308	1,241	1,30,156	95,189
(g) Other items	82	474	106	82	1,319	891
(h) Commutation fees	6,64,586	10,24,160	8,15,574	2,77,775	27,82,095	25,92,206
Total, II	7,88,272	12,48,820	10,40,526	4,65,259	39,38,475	34,17,863
III. Confiscated drift and waifwood ..	7,887	8,415	4,415	3,906	19,622	18,583
IV. Revenue from forests not managed by Government						
V. Miscellaneous—						
(a) Fines and forfeitures	36,288	84,050	70,359	31,261	2,21,958	2,42,126
(b) Other sources	15,873	62,052	11,203	1,62,690	2,50,827	2,04,244
Total, V	52,161	1,46,102	81,562	32,951	4,72,785	4,46,370
Grand Total, Receipts	7,44,681	14,13,457	10,40,794	5,28,000	39,38,475	34,17,863
EXPENDITURE.						
I. Refunds and drawbacks	2,459	8,604	9,791	2,681	23,539	27,323
II. Timber and other produce removed from the forests by Government Agency—						
(a) Timber	28,232	12	1,192	44,097	73,523	50,604
(b) Firewood and charcoal ..	5,746	117	745	25,222	31,830	29,226
(c) Bamboos	1,988	136	136	2,885	7,045	8,823
(d) Sandalwood	7,907	2,112	9,745	8,884	18,748	16,180
(e) Grass and other minor produce ..	41,973	2,365	11,845	21,589	77,772	1,32,442
Total, A-I	86,846	30,850	23,663	76,895	2,38,297	1,32,442
III. Timber and other produce removed from the forests by consumers or purchasers ..	48,656	30,850	18,424	17,151	1,15,081	1,25,898
IV. Confiscated drift and waifwood ..	1,835	68	24	141	2,068	3,148
V. Rent of leased forests and payments to shareholders in forests managed by Government ..	474	9,000	106	8,060	18,640	20,183
VI. Intercast, stores, tools and plant—						
(a) Purchase of cattle	20	29	15	12,729	13,649	13,010
(b) Feed and keep of cattle ..	10,107	29	15	71,693	81,754	75,628
(c) Stores, tools and plant ..	10,270	8,021	4,672	10,122	33,085	33,087
Total, A-VI	20,397	8,063	4,687	95,554	1,28,509	1,21,725
VII. Communications and buildings—						
(a) Roads and bridges	31,462	18,181	20,368	43,222	1,13,233	1,36,319
(b) Buildings	26,049	22,461	38,080	41,795	1,28,385	1,49,768
(c) Other works	8,638	864	8,411	4,654	22,567	17,767
Total, A-VII	66,149	41,506	66,859	92,481	2,65,265	2,93,854

Summary of receipts and expenditure during 1915-16 for each Circle and for the Presidency
compiled in the Board's office from the Conservators' statements—cont.

Budget heads	Northern Circle.	Central Circle.	Southern Circle.	Western Circle.	Grand total, Presidency.	
					1915-16.	1914-15.
EXPENDITURE—cont.						
A. Conservancy and Works—cont.						
VIII. Demarcation, etc.—						
(a) Demarcation	4,402	6,805	4,041	6,326	21,574	33,843
(b) Cost of settlement	193	1,322	8,960	5,512	15,987	1,89,921
(c) Surveys. (1) Local	8,260	6,064	6,167	5,945	26,496	29,217
(2) India	27	30	8,340	1,779	10,246	6,187
(d) Working-plans	24,708	3,716	3,325	10,085	41,234	72,846
(e) Sowing and planting	57,442	23,380	17,219	39,003	1,26,044	1,40,101
(f) Protection from fire	16,135	65,649	52,512	23,857	1,51,153	1,68,793
(g) Other works						
Total, A-VIII	1,11,337	1,06,365	1,00,665	86,597	4,02,574	6,40,908
IX. Miscellaneous—						
(a) Law charges	1,827	28	49	14	91	589
(b) Other charges	1,827	653	2,252	9,553	14,285	11,276
Total, A-IX	1,827	681	2,301	9,567	14,376	11,965
Total, A. Conservancy and Works, including Refunds.	2,90,501	1,95,479	2,09,604	4,01,921	10,97,505	18,88,298
B. Establishments.						
I. Salaries—						
(a) Conservators	21,767	19,186	23,060	20,080	83,073	88,393
(b) Superior officers	74,304	88,753	93,429	1,11,861	3,67,847	3,74,253
(c) Subordinate forest and depôt establishments.	1,28,681	1,22,867	1,16,191	1,00,341	4,66,970	4,73,801
(d) Office establishments	66,029	56,594	54,491	58,121	2,20,465	2,28,778
(e) Grain compensation allow- ance.				9,679	9,679	
Total, B-I	2,50,711	2,87,340	2,85,101	2,94,782	11,47,934	11,65,224
II. Travelling allowances—						
(a) Conservators	3,723	2,883	2,457	2,014	11,077	9,893
(b) Superior officers	16,588	15,332	17,112	20,401	69,433	65,364
(c) Subordinate forest and depôt establishments.	39,407	36,379	30,752	24,584	1,31,122	1,28,525
(d) Office establishment	12,637	10,865	8,767	7,295	39,544	40,602
Total, B-II	71,355	65,449	59,088	54,294	2,50,278	2,44,374
III. Contingencies—						
(a) Rents, rates and taxes	1,310	18,238	1,466	6,931	27,946	6,618
(b) Official postage and tele- grams.	9,668	4,762	10,049	18,748	43,225	36,474
(c) Sundries	18,609	5,429	14,802	2,324	41,164	94,665
Total, B-III	29,587	28,429	26,317	28,003	1,12,334	1,37,757
Total, B. Establishments	81,641	81,218	87,506	87,707	3,23,444	3,26,355
Grand Total Expenditure including Refunds and Drawbacks.	6,72,142	5,76,697	5,80,110	7,79,000	26,07,949	29,36,651
Surplus	72,763	6,04,279	4,60,634	1,92,900	13,30,526	10,81,201
Total	7,44,905	11,80,976	10,40,704	9,71,900	39,38,475	40,17,852

1 and outstandings on account of revenue during 1915-16.

OUTSTANDINGS and Liabilities on account of Contractors and Disbursers for the Forest year 1915-16

Districts.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the department at end of year.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Northern Circle.						
Direction ..	Timber and other forest produce.	..	476 5 0	476 5 0	476 5 0	..
Ganjam ..	Do.	(j) 7,812 1 0	(k) 61,925 14 1	(l) 69,437 15 1	(m) 66,310 8 1	(a) 3,127 7 0
Visagapatam ..	Do.	1,584 6 0	44,932 10 6	49,617 0 6	42,384 4 6	(b) 7,232 12 0
Godavari, Upper ..	Do.	(i) 264 12 0	47,160 7 1	47,825 3 1	47,299 3 11	(c) 595 15 2
Do. Lower ..	Do.	29,290 0 11	2,55,353 8 6	2,85,643 9 6	2,25,984 5 5	(d) 69,654 4 0
Kistna ..	Do.	18,634 6 9	79,248 10 11	97,883 0 8	77,479 8 2	(e) 20,403 8 6
Kurnool, East ..	Do.	65 4 1	70,378 3 3	70,443 7 4	69,143 7 4	(f) 1,300 0 0
Do. South ..	Do.	11,275 7 11	68,922 14 5	78,198 6 4	78,263 8 4	(g) 1,934 14 0
Do. West ..	Do.	5,816 0 0	1,46,567 4 0	1,52,383 4 0	1,39,653 13 0	(h) 12,738 7 0
Total ..		(i) 77,846 5 8	7,74,065 18 9	8,51,912 3 5	7,44,904 15 9	1,07,007 3 8
Central Circle.						
Direction ..	Timber and other forest produce.	..	193 0 0	193 0 0	193 0 0	..
Bellary ..	Do.	11,424 13 11	2,25,920 0 6	2,37,344 14 5	{ 4,81,399 0 0 (m) + 34 10 7	65,911 3 10
Anantapur ..	Do.	1,38,330 4 9	98,642 10 7	2,36,972 15 4	2,00,865 0 0	26,107 15 4
Guntur ..	Do.	8,443 10 0	2,23,206 10 8	2,31,850 4 3	2,17,832 0 0	14,018 4 8
Cuddapah, West ..	Do.	4,797 13 6	68,055 12 4	72,854 9 10	69,247 0 0	3,607 9 10
Do. East ..	Do.	16,134 15 10	84,480 14 11	1,00,615 14 9	{ 78,742 0 0 (n) + 600 0 0	21,273 14 9
Nellore ..	Do.	28,555 6 4	2,78,882 12 2	3,07,438 2 6	2,51,843 0 0	55,595 2 6
Chingleput ..	Do.	7,639 11 10	57,113 4 2	64,610 0 0	56,706 0 0	7,904 0 0
Chittoor ..	Do.	(c) - 143 0 0	79,407 11 4	1,31,398 2 8	1,14,149 0 0	17,249 2 8
Total ..		2,67,517 3 6 - 143 0 0	11,15,903 12 8	13,83,278 0 2	{ 11,80,970 0 0 + 634 10 7	2,01,067 5 7
Southern Circle.						
Direction ..	Timber and other forest produce.	..	60,543 0 0	60,543 0 0	60,543 0 0	..
Vellore, North ..	Do.	38,166 6 4	1,02,536 4 0	1,40,701 10 4	1,16,380 0 0	24,321 10 4
Do. South ..	Do.	82,054 12 5	1,77,555 3 11	2,59,610 0 4	1,80,230 0 0	79,380 0 4
Arcot, South cum Tanjore ..	Do.	15,406 14 3	1,10,680 15 8	1,26,401 0 1	1,10,305 0 0	16,096 1
Salem, North ..	Do.	• + 319 1 8	77,704 6 1	1,30,494 3 7	{ 1,12,790 0 0 (p) + 773 0 0	16,931 3 7
Do. South ..	Do.	52,789 13 6	1,74,720 5 4	2,14,183 0 11	1,24,983 0 0	89,201 0 11
Trichinopoly ..	Do.	3,462 11 7	1,12,428 13 11	1,20,260 10 5	1,04,193 0 0	16,067 10 5
Madura ..	Do.	• - 696 14 2	1,08,306 15 4	1,35,737 9 0	1,06,447 0 0	29,290 9 0
Simnaveilly cum Ramnad ..	Do.	• - 319 1 8	1,26,166 1 11	1,37,955 11 8	1,24,924 0 0	13,031 11 8
Total ..		(g) - 1,545 0 0 27,420 9 8 12,709 9 9	10,54,632 2 2	13,25,886 14 4	{ 10,40,794 0 0 (p) + 773 0 0	2,84,319 14 4
Western Circle.						
Direction ..	Timber and other forest produce.	..	111 0 0	111 0 0	111 0 0	..
Mangalore, North ..	Do.	8,765 10 7	1,20,619 2 5	1,29,884 13 0	{ 1,21,661 0 0 + 3 0 0	5,445 13 1
Do. South ..	Do.	11,611 1 4	1,16,705 9 8	1,28,316 11 6	{ 1,18,660 0 0 + 672 11 0	2,374 15 11
Malabar, North ..	Do.	1,919 2 4	1,60,931 9 3	1,62,850 11 7	{ 1,60,588 0 0 + 307 11 3	1,955 0 4
Do. South ..	Do.	13,957 4 1	1,05,708 15 1	1,19,666 0 2	{ 1,14,757 0 0 + 89,979 0 0	4,909 0 2
The Nilgiris ..	Do.	1,241 8 0	92,144 13 0	93,386 4 0	{ 89,979 0 0 + 3 0 0	3,398 4 0
Kollegal ..	Do.	12,600 2 1	1,36,440 9 3	1,49,030 11 4	1,40,421 0 0	8,609 11 4
Coimbatore, North ..	Do.	21,181 4 8	49,621 3 2	70,677 7 10	60,034 0 0	10,493 7 10
Do. Central ..	Do.	+ 225 0 0	2,20,966 4 8	2,28,363 10 0	1,67,529 0 0	55,764 10 0
Do. South ..	Do.	2,297 5 4	..	..	..	..
Total ..		{ 73,663 2 5 + 225 0 0	10,03,189 1 6	10,76,627 4 11	{ 9,71,800 0 0 + 1,192 6 3	1,03,634 14 8
Grand Total, Presidency ..		6,91,826 8 9 + 1,913 0 0	39,47,790 14 1	45,37,704 6 10	39,41,075 0 7	6,96,629 8 8

(a) Includes Rs. 2,600 due in 1916-17 and Rs. 318-8-0 covered by Earnest money deposit. Do.
(b) Includes Rs. 7,187-8-0 due in 1916-17 and Rs. 14 covered by Earnest money deposit and Rs. 300-0-6 awaiting adjustment by Public Works Department. Do.
(c) Includes Rs. 56-10-8 due in 1916-17, Rs. 229-4-0 covered by Earnest money deposit and Rs. 44,328-12-0 due in 1916-17 and Rs. 10,572-8-0 covered by Earnest money deposit. (f) Includes Rs. 900 due in 1916-17.
(d) Includes Rs. 1,925 due in 1916-17, 1917-18 and 1918-19 and Rs. 20,208-12-0 due in 1916-17. Do.
(e) Includes Rs. 20,208-12-0 due in 1916-17 and Rs. 54-14-0 covered by Earnest money deposit. Do.
(g) Includes Rs. 1,171-4-0 due in 1916-17 and Rs. 1,310 covered by Earnest money deposit. Do.
(h) Includes Rs. 5,265 due in 1916-17 and Rs. 1,310 covered by Earnest money deposit. Do.
(i) The difference is due to the short collection on 350 maddi vasame sold in February 1915 not having been included in the balance due to the Department at the end of the year 1914-15.
(j) Excludes Rs. 100 belonging to Parlakimedi Malihah. do.
(k) Do. 10,680 do.
(l) Do. 10,780 do.
(m) Written off in Commrator's sanction order No. 36 of 1915, dated 1st July 1915.
(n) Written off in Board's Proceedings Forest No. 1056, Revt., dated 13th December 1915.
(o) Deducted on account of erroneous demand. (p) Demand transferred to the Public Works Department on account of the transfer of padagais.
(q) Written off. (r) Demand transferred to Bonli. Do.
* Relates to Tanjore range transferred from Trichinopoly to Bonli. Do.
† Deduction due to erroneous demand and collection in the previous year. Do.
‡ Written off the accounts.
New.—Out of the total outlandings of Rs. 1,03,624-14-8 the amount actually due on or before 30th June 1915 was Rs. 62,812.

R. SRINIVASA AYYAR,
Deputy Accountant-General.

ANNUAL REPORT OF THE

ANNUAL FORM No. 83.

Forest Department, Madras Presidency.

FINANCIAL RESULTS OF THE YEAR 1915-16

District.	Timber and other produce removed from the forests by Government agencies.		Other revenue.		Formation, protection and improvement of forests.		Total.
	Receipts.	Charges.	Receipts.	Charges.	Charge.	Receipts.	
Northern Circle.							
Ganjam ..	16,683	16,110	62,550	4,231	17,354	62,550	96,810
Vizagapatam ..	6,030	5,841	37,202	2,788	1,871	42,416	37,590
Godavari, Upper ..	16,722	15,111	31,550	27,238	27,827	15,279	70,465
Do. Lower ..	1,052	6,223	2,219	6,111	21,421	4,604	44,486
Kistna ..	887	2,074	77,182	20,231	17,650	77,182	48,916
Kurnool, East ..	11,102	8,717	58,095	31,381	10,458	80,538	91,909
Do. South ..	3,334	1,214	72,666	15,127	5,498	79,300	83,909
Do. West ..	31,539	35,816	1,06,129	47,577	62,550	1,32,708	1,40,569
Total ..	82,271	93,850	3,02,031	2,21,703	2,74,130	7,44,903	6,89,683
Central Circle.							
Bellary ..	260	229	1,81,323	58,658	53,658	1,81,323	12,540
Arundel ..	17	210,861	34,273	28,881	2,10,865	2,10,865	12,954
Guntur ..	1-8	12	2,17,864	34,541	21,656	2,17,862	56,216
Cuddapah, West ..	122	12	62,125	33,326	20,512	62,125	52,868
Do. East ..	812	17	77,900	61,068	38,073	78,748	97,148
Nellore ..	9,366	2,077	2,16,177	61,305	20,512	2,51,843	68,982
Chingleput ..	56	66,650	2,416	17,880	16,706	41,376	41,376
Chittoor ..	52	7	1,14,097	40,726	29,307	1,14,149	70,050
Total ..	6,882	2,345	11,74,087	3,17,389	2,18,339	11,80,976	6,84,098
Southern Circle.							
Vellore, North ..	641	145	1,16,343	26,506	21,240	1,16,371	48,191
Do. South ..	82,342	9,794	1,11,163	37,479	29,477	1,33,106	72,746
Arundel, South ..	333	120	1,09,972	32,352	11,551	1,16,305	44,094
Salem, North ..	33,337	6,100	1,09,987	59,068	38,102	1,08,418	1,01,968
Do. South ..	12,076	1,544	2,74,094	38,290	19,868	1,38,658	60,733
Trichinopoly ..	5,761	1,043	1,02,713	37,398	18,612	1,08,474	81,251
Madurai ..	139	18	1,06,386	54,108	68,722	1,06,515	1,10,913
Tinnevely ..	965	696	1,23,959	44,578	32,357	1,44,924	77,431
Total ..	1,36,194	19,569	9,04,001	3,29,453	2,71,275	10,40,794	7,67,317
Western Circle.							
Mangalore, North ..	20,460	15,321	1,00,816	51,614	24,573	1,21,977	89,308
Do. South ..	95,741	29,970	25,934	17,629	41,018	1,16,674	98,617
Malabar, North ..	1,14,011	51,526	16,571	10,138	51,162	1,66,002	93,831
The Nilgiris ..	55,729	20,362	29,042	28,497	22,641	1,14,771	1,60,600
Kollegal ..	59,882	11,510	30,661	18,423	27,115	89,993	67,148
Coimbatore, North ..	62,381	11,040	78,104	41,035	10,352	1,49,436	92,427
Do. Central ..	1,247	1,308	58,850	29,726	24,819	60,497	68,862
Do. South ..	54,988	20,964	1,12,865	53,384	37,540	1,67,583	1,26,888
Total ..	4,94,259	2,04,001	4,77,541	2,60,520	2,60,060	9,77,800	7,76,571
Grand Total, Presidency.	7,19,612	3,79,806	32,18,863	12,49,066	2,53,794	39,28,476	26,07,949

* Refunds.

† Includes refunds.

‡ Expenditure incurred by the Working Plans officer in June 1916 and relating to the Southern Circle.

- (a) Refunds and drawbacks.
 (b) Excludes Rs. 644-9-11 belonging to Parlakimedi Malihah.
 (c) Do. 653-10-3 do.
 (d) Do. 15,617-2-4 do.
 (e) Do. 203-15-11 do.
 (f) Do. 32,316-7-4 do.
 (g) Do. 16,361-13-3 do.
 (h) Do. 33,262-1-5 do.

FOREST DEPARTMENT

ANNUAL FORM No. 84.

Forest Department, Madras Presidency.

STATEMENT OF elephants and other live-stock during 1915-16.

STATEMENT OF ELEPHANTS AND OTHER LIVE-STOCK.

District.	On hand at the commencement of the year.		Number received during the year.	Number disposed of during the year.	On hand at the end of the year.		Total expenditure on maintenance during the year.
	Number.	Value.			Number.	Value.	

(1) ELEPHANTS.

Northern Circle.

	(b) 3	(c) RS.	1	1	(b) 3	(c) RS.	(d) RS. A. P.
Ganjam	1	5,450	..	..	1	4,950	3,417 15 4
Vizagapatam	1	1,500	..	..	1	1,500	1,126 4 2
Godavari, Upper	2	3,700	..	..	2	3,700	1,731 13 5
Kurnool, West	2	3,100	..	..	2	3,100	1,628 15 4
Total ..	8	13,750	1	1	8	13,250	7,805 0 3

Central Circle—Nil.

Southern Circle—Nil.

Western Circle.

	8	17,150	..	8	5	13,650	3,142 13 10
Mangalore, South	19	46,400	7	5	21	63,300	9,072 7 5
Malabar, North	23	76,100	6	6	23	81,100	12,781 8 3
Do. South	54	1,37,900	10	22	42	1,31,700	20,455 9 8
The Nilgiris	16	44,400	3	4	14	47,800	8,950 10 1
Coimbatore, South							
Total ..	119	3,21,650	26	40	106	3,37,550	54,413 1 2
Grand Total (Elephants), Presidency.	127	3,35,400	27	41	113	3,50,800	62,218 1 5

(2) OTHER LIVE-STOCK.

Northern Circle.

	10	(a) 275	..	4	6	198	443 12 3
Kurnool, East	20	1,000	..	..	20	1,000	1,903 9 5
Do. South							
Do. West							
Total ..	30	(a) 1,275	1	4	27	1,218	2,347 5 8

Central Circle.

	4	113	..	1*	3	65	..
Chittoor							

Southern Circle—Nil.

Western Circle.

	20	1,000	..	20	..	80	530 12 6
Mangalore, North	2	200	..	..	2	357	357 9 7
Malabar, North	26	1,026	10	3	33	2,556	2,645 9 2
Do. South	11	460	6	6	11	735	1,880 15 7
The Nilgiris	43	3,421	32	9	66	4,729	5,801 12 2
Coimbatore, South							
Total ..	102	6,107	48	38	112	7,100	11,216 11 0
Grand Total (Other Live-stock), Presidency.	136	7,495	49	43	142	8,383	18,564 0 8

* Died.

* Died.

- (a) Last year's figure is incorrect.
 (b) Excludes two elephants belonging to Parlakimedi Malihah.
 (c) Do. Rs. 4,500 being the value of the two elephants belonging to Parlakimedi Malihah.
 (d) Do. Rs. 2,168-0-10 being the maintenance charges of two elephants in Parlakimedi Malihah.

STATEMENT of elephants and other live-stock during 1915-16.

PART II.

District.	Name.	When purchased or otherwise obtained by Government.	Age.	How disposed of.
ELEPHANTS GONE OFF THE LIST DURING THE YEAR.				
Northern Circle.				
Ganjam	Ketaki	Purchased in June 1913	17	Transferred to South Coimbatore district.
Central Circle—Nil.				
Southern Circle—Nil.				
Western Circle.				
Mangalore, South.	1. Daisy	Captured on 1st June 1915	20	Died.
	2. Rose	Do.	12	Do.
	3. Hanuman	Do.	26	Transferred to the Nilgiris.
Malabar, North.	1. Leelavati	21st February 1902	26	Died.
	2. Navamony	Do. 24th April 1915	20	Do.
	3. Dolly	Do.	20	Do.
	4. Little Willy	Do.	3	Do.
	5. Sandari	Do.	2	Do.
	6. Jopier	Do.	4	Do.
Malabar, South.	1. Kalarang	Do.	4	Do.
	2. Seta	Do.	36	Do.
	3. Lawrence	Do.	9	Do.
	4. Bijar	Do.	1	Do.
	5. Ketaki	Do.	8	Do.
	6. Dostijahan	Do.	1	Do.
	7. Countess	Do.	17	Do.
	8. Indrani	Do.	14	Do.
	9. Kumaran	Do.	25	Do.
	10. Nala	Do.	38	Do.
	11. Narada	Do.	7	Do.
	12. Seta	Do.	3	Do.
	13. Gomati	Do.	6	Do.
	14. Balaji	Do.	6	Do.
	15. Pankajam	Do.	26	Do.
	16. Sawmy	Do.	5	Do.
	17. Pretty Polly	Do.	3	Do.
	18. Hyder	Do.	4	Do.
	19. Amaravati	Do.	5	Do.
	20. Desaray	Do.	2	Do.
	21. Penniar	Do.	2	Do.
	22. Sarawati	Do.	4	Do.
	23. Tumbaparni	Do.	7	Do.
	24. Gowri	Do.	30	Do.
	25. Female calf	Do.	40	Do.
	26. Male calf	Do.	10	Do.
	27. Mohideenkhan	Do.	10	Do.
	28. Captured on 3rd January 1896	Do.	37	Do.
Coimbatore, South.	1. Hilda	Captured in April 1907	28	Transferred to South Malabar.
	2. Helen	Do.	28	Transferred to Ganjam.
	3. Savitri	Do.	29	Sold.
	4. Kanishka	Do.	28	Died.

District.	Buildings.		Stores.		Totals.		Difference in value.	
	On hand at the commencement of the year.		On hand at the end of the year.		On hand at the commencement of the year.		On hand at the end of the year.	
	Number.	Value.	Number.	Value.	Number.	Value.	Number.	Value.
Northern Circle.								
Direction	1	Rs. 1,600	1	Rs. 1,800	418	Rs. 2,879	406	Rs. 4,479
Ganjam	119	56,214	145	55,744	(a) 2,581	(d) 7,004	(a) 2,581	(d) 7,004
Vizagapatnam	92	10,959	97	10,793	1,430	2,758	1,430	2,758
Godavari, Upper.	130	29,829	126	30,214	2,401	16,880	3,971	17,007
Godavari, Lower.	120	45,697	143	49,684	1,916	6,681	1,947	5,150
Kistna	51	6,825	46	5,660	1,533	7,669	1,354	9,348
Kurnool, East.	34	42,813	41	46,140	3,009	6,581	3,316	6,114
Do. South.	82	47,701	62	44,677	3,819	10,221	3,326	8,274
Do. West.	110	85,448	108	82,550	5,460	13,137	5,231	12,149
Total	759	3,28,279	767	3,27,062	22,533	73,719	22,701	70,330
Central Circle.								
Direction	56	71,422	55	70,027	243	2,787	257	2,692
Bellary	38	62,687	36	53,553	2,000	6,300	2,668	7,330
Anantapur	32	18,369	31	11,778	2,133	10,321	2,013	9,147
Guntur	37	15,407	38	10,230	2,219	7,087	1,755	5,008
Chittoor	89	25,248	89	28,772	1,288	5,678	1,877	6,346
Chittoor, East.	48	38,180	49	34,275	44,795	38,817	46,057	35,266
Chittoor, West.	33	10,934	29	11,310	2,474	12,040	4,302	2,507
Chittoor, South.	52	18,198	47	28,247	2,572	5,944	2,723	5,151
Total	380	2,45,425	374	2,43,318	60,004	97,452	60,844	83,199
Southern Circle.								
Direction	46	20,898	49	22,853	1,835	5,933	1,785	5,036
North Vellore.	47	25,183	48	29,692	3,396	9,311	3,107	9,218
South do.	39	21,132	43	21,685	1,431	3,143	1,723	3,618
South Arcot	88	43,286	115	97,786	2,397	6,400	2,382	8,028
North Salem	56	32,273	61	44,279	2,618	6,870	3,009	7,535
South do.	30	20,782	25	15,342	3,054	8,722	3,217	9,253
Trichinopoly	111	73,697	118	82,574	5,372	6,309	3,198	5,738
Madurai	83	47,870	82	55,734	1,907	4,703	1,906	5,159
Tinnevely	...	...	...	...	...	...	...	...
Vernacular Training School.	...	...	...	...	...	...	...	...
Special working plant office.	...	...	...	...	...	...	...	...
Total	500	2,85,121	541	3,72,995	20,872	67,311	21,253	59,163
Western Circle.								
Direction	1	74	1	70	380	4,987	385	5,135
Mangalore, North.	25	17,136	32	18,997	1,012	3,740	962	3,708
Do. South.	29	7,521	24	8,052	1,041	3,532	1,112	4,316
Malabar, North.	72	39,270	74	40,580	9,882	6,856	4,548	9,904
Do. South.	46	39,907	61	40,931	1,640	5,713	1,645	6,095
The Nilgiris	87	39,195	68	39,828	1,433	13,611	1,902	14,299
Kollegal	35	28,733	34	26,356	4,833	6,618	1,970	6,230
Coimbatore, North.	71	57,533	78	66,919	3,429	11,213	3,394	12,112
Do. Central.	55	24,086	61	27,910	7,665	8,404	7,807	8,527
Do. South.	64	32,527	69	34,866	8,826	11,630	9,992	8,892
Vernacular Training School.	...	...	...	...	...	...	...	...
Total	456	2,89,932	492	3,02,777	55,469	77,571	23,640	77,942
Grand total	2,105	11,44,757	2,174	12,46,162	138,878	3,06,053	131,438	2,90,034

* Correct figures furnished by the District Forest Officers.

- (a) Excludes 558 articles belonging to Parlakimedi Malahs.
 (b) Do. Rs. 2,253-5-0 being value of 558 articles belonging to Parlakimedi Malahs.
 (c) Do. 654 articles belonging to Parlakimedi Malahs.
 (d) Do. Rs. 1,291-12-6 being value of 654 articles belonging to Parlakimedi Malahs.
 (e) Do. Rs. 961-8-0 against the year on account of Parlakimedi Malahs.

GOVERNMENT OF MADRAS

REVENUE DEPARTMENT

READ—the following paper:—

Proceedings of the Board of Revenue (Land Revenue), Forest No. 156,
dated 14th November 1916

The Hon'ble Mr. M. E. CUCHMAN, I.C.S.,
Commissioner of Land Revenue and Forests.

The Board submits to Government its progress report of Forest administration in the Madras Presidency for the year ending 30th June 1916.

2. The reports of the Conservators of Forests have been consolidated under each of the various heads with reference to the orders of Government contained in G.O. No. 2183, Revenue, dated 23rd September 1916. The attention of Conservators will be drawn to the table of contents appended to the letter from the Government of India, Revenue and Agriculture (Forest), communicated with Board's Proceedings, Forest No. 175, dated 29th August 1904, and they will be requested to follow the headings closely in drafting their future annual reports, so that there may be no difficulty in collating the matter under each head in the manner now ordered by Government.

3. *Alteration in area.*—Some twenty square miles, mostly in Central Coimbatore (10 square miles) and Anantapur (8 square miles), were constituted reserved forests during the year. There were also the following changes:—

(i) a decrease of 3 square miles caused by the rectification of boundaries in Kistna;

(ii) a decrease of 42 square miles due to the disafforestation of areas which were abandoned in pursuance of the policy of giving up small scattered forests: 10 square miles in Ganjam, 8 square miles in Nellore, 7 square miles in Chittoor, 6 square miles in North Coimbatore, 4 square miles in each of the districts of Anantapur and Cuddapah West, 2 square miles in South Arcot and 1 square mile, in the aggregate, in Chingleput and Madura;

(iii) a loss in Trichinopoly of 5 square miles of land which was transferred to the Public Works Department;

(iv) an apparent increase of 2 square miles due to excess found on resurvey of kancha areas in Nellore; and

(v) a similar excess of 2 square miles discovered during forest settlement in Trichinopoly. The net result of these changes was a decrease of 26 square miles in the total area of reserved forests, which stood at 18,849 square miles at the close of the year. The area of reserved lands also fell from 761 to 734 square miles. About 11 square miles were newly notified under section 4 of the Forest Act. Twenty square miles were notified under section 16.

4. *Forest Settlement.*—As in the previous years, forest settlement work was carried out by Revenue Divisional Officers. Out of a total area of 567 square miles which awaited settlement at the close of the year, the Northern Circle alone accounts for 492 square miles. Four large blocks, covering an area of about 483 square miles, were awaiting settlement in the districts of Ganjam and Godavari. The settlement papers in respect of two large blocks, viz., Chokkapad (64.69 square miles) and Pedamdisileru (96.48 square miles) have been received in the Board's office and are under revision and still form the subject of correspondence with the local officers. The Collector of Godavari will be requested to expedite the submission of the section 16 notification of the Nugur block (area 246.61 square miles), the details of the reservation of which are reported to be still under discussion. He has already been instructed to proceed with the reservation of the Coringa Extension block (75 square miles) in view of the fact that the Coringa forest appeal, which was made to the Privy Council, has ended in favour of Government. As to the Southern Circle, the Board has submitted to Government the report of Mr. E. A. Davis, I.C.S., regarding the reservation of about 50 square miles in the Pachamalai and Kollimalai, in the Attur taluk, South

Salem division, and has recommended the appointment of a special Forest Settlement officer for the reservation of the unreserves referred to. Forest Settlement work is practically complete in the Central and Western Circles.

5. *Demarcation.*—The total length of boundaries at the close of the year was 35,605 miles (or 1,385 miles less than in the previous year), of which 1,882 miles do not require artificial demarcation. The total length of artificially marked boundaries at the close of the year was 33,185 miles, of which 118 miles were demarcated for the first time during the year, against 246 miles in the previous year. Five hundred and thirty-eight miles remained still to be demarcated at the close of the year, principally in the districts of Kollegal and Madura, as in the previous year. The length of old boundaries repaired during the year was 17,644 miles, against 19,435 miles in the previous year; of this length 11,438 miles were cleared by subordinates free of cost against 12,400 miles in 1914-15. The average cost per mile of fresh demarcation rose from Rs. 33-10-6 to Rs. 36-5-3 but the cost of repairs fell from Rs. 3-6-8 to Rs. 2-11-7. The cost of fresh demarcation and repairs increased in the Western Circle and that of repairs only in the Northern Circle. These variations have not been explained notwithstanding the instructions on the point conveyed in paragraph 4 of Board's Proceedings Forest No. 161, dated 17th November 1915. The Board hopes that the omission will not recur. The Special Forest establishment, appointed for the verification and permanent demarcation of forest reserves in the Nilgiri district, started work in October 1915 and verified the boundaries of 49 reserved forests in Ootacamund taluk, of which 39 miles have been demarcated. In G.O. No. 2038, Revenue, dated 6th September 1916, Government ordered the continuance of this work to ensure the preservation from damage and encroachment of the forests, most of which contain valuable sholas. It is reported that eight miles of the proposed new boundary between the Nilgiris and Coimbatore were demarcated and about five miles roughly aligned. The report called for in paragraph 3 of G.O. No. 96, Revenue, dated 15th January 1916, was submitted to Government in Board's Forest Reference No. 2982-10-19, dated 14th September 1916. The Board has recommended that the new boundary, as settled in 1912, should be adhered to and that its demarcation should be continued.

6. *Surveys.*—The survey of India finally surveyed on the two inches scale certain reserves in East Cuddapah, Chingleput and Chittoor, aggregating an area of about 30 square miles. The party commenced work on the four inches scale in Nellore in April last in accordance with G.O. No. 479, Revenue, dated 1st March 1916, and the work is reported to be progressing. The Special Forest Map Officer, Mr. Descubes, completed the preparation of the maps of all Forest divisions and his services were terminated on 31st March 1916. It is reported that some of these maps are being made ready for publication in the Forest Map office at Dehra Dun. A surveyor deputed by the Madras Survey Department rectified the errors in the survey of five estates in the Anamalais; he was relieved on 10th June owing to the outbreak of the monsoon. The Collector of Coimbatore has since applied for sanction for his employment for a further period of six months during the current year to complete the survey of 12 estates still remaining to be surveyed and the proposal has been referred back to him for further details. Miscellaneous work, such as survey of coupes, alignment of roads and fire lines, verification of boundaries and preparation of coupe and working-plan maps, was done by departmental surveyors.

MANAGEMENT OF FORESTS.

(1) Regulation and management.

7. *Working-plans.*—In its proposals for the reorganisation of the controlling staff of the department which were submitted to Government during the year, the Board has provided for five Imperial and five Provincial officers, whose duty is to be the preparation of working-plans. The successful working of the forests depends in a large measure on the care and accuracy of the enumeration, estimates and forecasts contained in working-plans, and District Forest Officers are seldom able to devote to this branch of work that continuous and close personal attention which is essential. During the year, working-plans were sanctioned for 441 square miles and plans were under preparation for 2,527 square miles. The working plan for the sandal forests of

the Javadis, prepared by Mr. C. C. Wilson, Special Working-Plans Officer, was sanctioned during the year and another important working plan for the fuel forests of the Madura district prepared by the same officer was sanctioned after its close. The Hosur sandalwood working plan, also prepared by Mr. Wilson, is now under the Board's consideration. As in the case of his report on the sandalwood of the Chit-toris and the Javadis, the detailed enumeration of the Hosur sandalwood forests shows that the value of the sandal forests has been underestimated and that, given proper management and attention, they should be capable of yielding a much larger revenue. At the end of the year, Mr. Wilson was transferred to the Western Circle and has since prepared a reconnaissance report for the Tekkadi leased forest. In the Northern Circle, an interim working plan was prepared for the forest of Goomattur and Pondakhol by Mr. Minchin, District Forest Officer, and sanctioned by the Board. Mr. Bourne is preparing the final working plan for the Nilambur teak plantations. Instructions were issued for the preparation of a working plan for the Sandur leased forests, Bellary district. The work is to be entrusted to M.R.Ry. E. V. Padmanabha Pillai, Extra Assistant Conservator of Forests.

8. There are still about 5,846 square miles of forest for which no working plans have been prepared, and of the existing working plans there are many which require revision.

(2) Communications and buildings.

9. The following statement compares, with the figures of the previous year, the expenditure during the year on the construction and maintenance of roads and bridges and buildings in the four circles:—

	Roads and bridges.		Buildings.	
	1914-15.	1915-16.	1914-15.	1915-16.
Northern Circle	Rs. 32,333	Rs. 31,462	Rs. 31,216	Rs. 28,649
Central "	15,870	12,181	38,510	22,001
Southern "	19,513	25,208	43,677	36,080
Western "	47,361	43,222	41,006	44,356
Total	1,25,419	1,09,283	1,53,769	1,31,086

Owing to the war expenditure was curtailed, and the total expenditure on both communications and buildings shows a decrease. The improvement of forest communications is, however, receiving careful attention, and during the year 441 miles of new cart roads, etc., were added. It is observed that under the head of roads and bridges a greater amount was spent on repairs (Rs. 64,535) than on new works (Rs. 43,326), and that under buildings the expenditure on new works (Rs. 80,720) exceeded that on repairs (Rs. 51,265). During the year the Board has approved schemes for the construction of roads and buildings which the Conservators of Forests have prepared in accordance with Mr. Beadon Bryant's recommendations. The temporary Forest Engineer (Mr. F. J. Marshall) has been placed under the control of the Forest Commissioner since the end of March. The services of the other Forest Engineer (Mr. A. J. Bright) were dispensed with, as he failed to give satisfaction. The most important works executed during the year under report were the alignment of 14 miles of the Alangayam-Komattiyar road in the South Vellore Division and the preparation of an estimate sanctioned in G.O. No. 975, Revenue, dated 1st May 1916, for Rs. 1,11,400 for its construction. The work is in progress. Estimates were prepared for the new Mount Stuart Ghat road.

The tramway in the Tekkadi leased forests was extended; it was worked at a profit of Rs. 1,441, against Rs. 2,416 in the previous year. With a decrease in the outturn of work the working charges showed an increase, which is attributed to the purchase of fresh materials and a temporary stoppage of work necessitated by an outbreak of anthrax. In Nellore, the laying of tram lines for fuel transport went on as usual. At Subarikota and in the Coast range 1,518 tons and 9.7 tons of fuel were transported, an increase, in the former case, of 909 tons and a decrease, in the latter case, of 5,381 tons over the figures of last year. The tram lines and trucks in the district were lent to contractors.

10. *Miscellaneous works.*—The expenditure under this head also decreased from Rs. 17,767 to Rs. 12,279. The chief works consisted, as usual, in fencing compounds and reserves and constructing and repairing tanks and wells. The telephone service in South Coimbatore is reported to be, on the whole, working satisfactorily.

(3) Protection of forests.

11. The following table compares the forest offences reported during the year with those of 1914-15 and with the average of the three years ending with 1914-15:—

	Injury to forests by fire.		Unauthorized felling and removal of forest produce.		Unauthorized grazing.		Other offences.		Total.		Average for three years ending 1914-15.
	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	1914-15.	1915-16.	
A. Cases taken to court.	27	92	4,062	5,033	2,021	2,082	389	341	6,506	7,518	6,088
B. Cases compounded.	69	44	15,564	14,401	7,112	5,634	1,087	661	24,125	20,740	23,486
C. Cases undetected.	788	1,609	716	504	362	505	44	9	1,910	2,627	1,829
Total	877	1,745	20,342	19,938	9,495	8,191	1,520	1,011	32,541	30,885	31,403

It will be seen that the total number of offences reported is 1,656 less than in the preceding year and 518 less than the average for the three preceding years. Compared with the figures of the previous year, offences appreciably decreased in the districts of Nellore, Chingleput and Trichinopoly. The number of offences in the Southern Circle was 44 per cent and in the Central Circle 32 per cent of the total. Offences were most numerous in Guntur, Nellore and in the Southern Circle, in which as noted in paragraph 10 of the last year's administration report, most of the reserved forests are scattered, of comparatively small area, and contiguous to villages and cultivation. It is hoped that some diminution of forest crime will result from the recommendations of the Forest Committee, to which effect is being given as fast as possible. In particular, the introduction of the forest village system for the more valuable forests, and the creation of village panchayats to manage minor forests in which grazing is the chief consideration should give the villagers an interest in the protection of the forests, and make it possible to reduce to a minimum contact between the subordinate Forest officials and the villagers.

12. The decrease in the number of offences reported occurred under all heads except "injury to forests by fire." The increase amounting to nearly 100 per cent in the number of offences of this class occurred in the districts of Anantapur, Chittoor, South Vellore, North and South Salem, Madura, North and Central Coimbatore; incendiary and, to some extent, the exceptional dryness of the season in the last named two districts are the reported causes of these fires. The number of cases of illicit felling and illicit grazing decreased by 3.4 per cent and 13 per cent respectively. The decrease under the former head was most marked in the Central Circle and was shared by all districts comprised therein except Bellary and Anantapur; the decrease of illicit grazing occurred in the Southern Circle, notably in South Arcot, where the number of cases fell by 483. Of the fires 92 per cent were undetected. Detection of offences generally was poor in the districts of Kurnool, South and West, Anantapur, Nellore, Chittoor, the two Vellores, the two Salems, Madura and North Coimbatore. The Conservator, Western Circle, reports that the undetected offences of his circle are almost entirely cases of incendiary and adds, by way of explanation, that whereas a number of undetected petty offences of other kinds are left unreported, every fire is reported, however trivial.

13. The percentage of all reported cases taken to court, compounded and undetected, was 24.34, 67.15 and 8.51, against 19.99, 74.14 and 5.87 in the previous year.

14. The total number of cases disposed of by magistrates rose from 6,737 to 8,061 and the percentage of acquittals to cases prosecuted fell from 7.9 to 7.2. The Collector of Kurnool has drawn attention to the need for a better knowledge of law and procedure on the part of rangers and deputy rangers. Attention is being paid.

to this at the Madras Forest College. Students are also taken to watch the hearing of forest cases. An improvement may, therefore, be expected in this matter in the future.

15. The rules laid down by Government in G.Os. No. 1990, Revenue, dated 13th June 1910, and No. 3958, Revenue, dated 14th December 1910, for the guidance of Forest officers in compounding offences of illicit grazing worked satisfactorily in all districts.

16. The closure of forests to grazing as a punishment for systematic offences on a large scale was not considered necessary in any district, except *Visigapatam, Gōdāvari, Chittoor and Tinnevely*.

17. Rewards amounting to Rs. 903 were granted to informers and forest subordinates, against Rs. 2,023 in the previous year. It is reported that a few rewards were given for assistance rendered in the detection of forest offences in the Northern Circle, but the amount has not been specified.

18. *Fire protection*.—The system of fire protection was the same as in the previous year, viz., the clearing of exterior and interior fire lines and patrol by watchers. The system, adopted in the South Kurnool Division in the previous years, of having boundary and fire lines cleared through the agency of purchasers of material thereon was extended in the same division. In areas over which special protection was attempted, the percentage of failure increased from 6.60 to 17 per cent, 1,150 out of a total of 6,763 square miles so dealt with having been burnt. The prolonged hot weather and the failure of the early rains produced unfavourable conditions; but many of the fires are attributed to deliberate incendiarism. The cost per square mile successfully protected was Rs. 20-12-7, against Rs. 23-9-8 in the previous year.

In *Upper Gōdāvari* the system of payment in lump for line clearing combined with the grant of proportionate rewards for successful protection was continued, but a large area was burnt by incendiaries. The matter is reported to be engaging the personal attention of the Collector. In *Lower Gōdāvari*, the services of hillmen were used, with the satisfactory result that the area protected was 97 per cent of the area taken up. In *South Coimbatore* also, the services of hillmen were enlisted in fire protection operation but the result is not reported. In *Kurnool East*, the Chenchus are reported to have set fire to the forests near Nagaluti and Peecheruvu in revenge for having been stopped from collecting fees from pilgrims to Sriselam, but the Chenchus of *West Kurnool* Division are reported to have worked hard to put out a fire which burnt 32,000 acres in the specially protected block of Nandyal range and is believed to have been the work of some timber thieves. In B.P. Forest No. 109 Mis., dated 3rd March 1916, the Board has recommended to Government the continuance of the system of granting rewards to Chenchus for fire protection, subject to the Conservator's suggestions for its improvement.

In addition to the area specially protected, the ordinary staff attempted to protect 9,309 square miles against 9,356 square miles in the previous year; of this area 8,607 square miles were successfully protected.

19. Fires were heaviest in the districts of *Upper Gōdāvari, Kurnool East and South, Bellary, Cuddapah East and North Coimbatore*. The area burnt from intention or malice was twice as large as in the previous year, and increased in *Ganjam, Kurnool East, Cuddapah East and West, Chittoor, South Vellore and the Nilgiris*.

20. The suggestion made by Mr. Cox, late Acting Conservator of Forests Central Circle, and referred to in the previous year's report, that special annual reports on the subject of fire conservancy accompanied by maps should be submitted for each division in August and reviewed, was not supported by the other Conservators of Forests and was dropped by the Board, on the ground that with the existing staff the proposal was impracticable.

21. *Protection from cattle*.—8,512 square miles, or 18 per cent of the total area of reserved forests and reserved lands, were closed to cattle, sheep and goats throughout the year, and 178 square miles for part of the year; the corresponding figures for the previous year were 8,380 and 102 square miles. 204 square miles of reserved forest and reserved lands were open to goats, against 218 square miles open last year. From the close of 1915-16, goats have been excluded from all reserves except in portions of three reserves of the *Chingleput* district in the Central Circle. The area closed to

goats alone was 15,030 square miles and that closed to goats and sheep was over 659 square miles, the figures for the previous year being 15,292 and 647 square miles, respectively. A grazing scheme for the Guntūr district sanctioned in G.O. No. 1675, Revenue, dated 17th July 1915, was brought into force in the district during the year under report. In the *Nellore* district, the *Kancha* system of leasing out the grazing in the forests has made good progress. A Special Deputy Collector was appointed for six months to accelerate the movement. The Conservator reports that, besides protecting the forests in which grazing is allowed against fire, the lessee often undertakes the protection of closed areas as well. The Collector reports that revenue has gone up, that, with the withdrawal of the forest subordinates, friction has decreased, offences have considerably declined and informal panchayats are being formed.

22. An important step was taken during the year in the direction of associating the people with the Forest Department by the sanction given in G.O. No. 298, dated 10th February 1916, to the Forest village system. This system recognises that the ryots of those villages, which have contributed land for the formation of forest reserves, should receive preferential treatment as regards grazing and the grant of other privileges in such portions of the reserves as have been classed as "open." In return for this, they will be expected to take an active part in protecting the forests from fire and other damage.

23. The total number of animals licensed to graze on payment fell from 3,898,811 to 3,212,606. The decrease occurred under all the circles. In the Central Circle, it occurred in all districts and is attributed generally, subject to other causes peculiar to each district, to the transfer of reserves to panchayats for management. The Conservator, Southern Circle, gives this year also an interesting table showing the grazing incidence in each district based on the actuals of grazing permits, and states that forests cannot be expected to improve until the incidence is much reduced.

24. The number of cattle impounded was 175,903, against 208,393 in the previous year and 191,671, the average for three years ending 1915-16.

25. *Protection against injuries from natural causes*.—Spike disease continued its attacks upon sandal in *North Salem, Trichinopoly, Kollegal and North Coimbatore*, and is reported to be spreading gradually. The measures taken last year to check the spread of the disease in *Kollegal* proved a failure. Mr. T.N. Hearsey, Extra Assistant Conservator of Forests, was employed on special duty for the investigation of the disease in the sandal forests in *Salem*, and is reported to have made some interesting discoveries. No progress was made in the eradication of *lantana*, which was begun last year in *Tinnevely*, but attempts are being made to combat this pest in several districts in the Western Circle. Teak defoliators continued to do much damage to the teak plantations in *South Malabar*. The identification of the jaccids on teak leaves referred to in the Northern Circle report of the previous year is engaging the attention of the Forest Botanist, Dehra Dun; the insect continued to damage teak and *Anogeissus latifolia* in *Nugur, Sambhur* as usual continued to do a good deal of damage in *Tinnevely*.

(4) *Sylviculture*.

26. *Natural reproduction*.—Except in the Western Circle, which suffered severely from fires, the year was on the whole favourable for natural reproduction. It is satisfactory to find that sandal is more widely distributed than was formerly supposed and that in several areas it is spreading. Reproduction of *Pterocarpus santalinus* and that in coppice in *Cuddapah* and *Chittoor* was satisfactory. The flowering of the bamboo is spreading over large areas in several forest divisions in the Western Circle. The question of how to take advantage of the bamboo flowering in *South Coimbatore* "with a view to getting in a larger proportion of teak and other valuable timber trees" was under the consideration of the Working-plans officer after the close of the year. Natural regeneration of teak was not successful in the Western Circle owing to absence of the complete light which experience shows to be essential to teak if it is to reach the pole stage.

27. In accordance with the advice given by the Inspector-General of Forests during his tour in 1913, expenditure on artificial reproduction has been greatly reduced. In the year under report, it amounted to Rs. 18,973 against Rs. 25,572 in the previous year. Of this amount, Rs. 15,540 were spent on teak plantations in *West Kurnool* during the year, the principal object of this scheme being to provide work for the chentsus and divert them from crime.

28. *Operations for the improvement of the growing stock.*—The operations undertaken during the year consisted, as in the previous years, of improvement fellings, thinnings, fencing, creeper cutting, the removal of inferior species, dead and dying trees, parasites and noxious growth and weeds, and the building of stone walls in a few places, to protect the forests from trespass. Systematic and useful work in the removal of creeper growth over sandal areas was done in the Javadi and Yelagiris of South Vellore division and in the Chitteris of South Salem.

Experiments.—Successful experimental cultivation was carried out in the following districts:—

Sandal in Kurnool South and Kistna. *Eucalyptus globulus* in East Cuddapah and Chittoor, *Swietenia Mahogani* in Chittoor, *Pterocarpus santalinus* in North Vellore, and teak in the Nilgiris and South Coimbatore. The experiment of girdling sandalwood started in South Vellore for the purpose of increasing the heartwood is reported to be still in an imperfect stage. Mr. Nelson's bamboo pulp scheme in Malabar is, it is understood, under the further consideration of Government. Mr. T. Clear, District Forest Officer, South Kurnool, submitted a report during the year on a tour which he recently made in Northern India for the purpose of investigating the lac industry and Indian vegetable dyes.

(5) Exploitation.

29. *System of management—Major produce.*—The various methods of exploitation of major produce were, as in previous years, clear or regeneration fellings, thinnings, selection fellings and improvement fellings and coppice fellings. Clear or regeneration fellings were carried out mostly in Ganjam, Godavari Lower, Kistna, South Kurnool, South Arcot, Tinnevely and South Malabar. Selection fellings were, as usual, made in timber coupes or where it was found necessary to eliminate dead and unsound trees. In the Southern Circle, bamboos were worked under this system. Improvement and coppice fellings were undertaken principally in fuel coupes and in a few timber coupes and bamboo areas. In the Southern Circle most of the areas in which improvement fellings were undertaken were sandal areas. Unregulated fellings under the permit system were made in Rampa, Lower Godavari, and in some unreserves. In reserves this antiquated system was chiefly confined to the extraction of brushwood and *Articenna officinalis* (mada) poles by the Public Works Department for river conservancy work in the Coringa reserve in Lower Godavari, of selected and marked timber trees for domestic requirements in one range in Madura, of dead and wind-blown trees from certain reserves in the Mangalore divisions, of small timber and fuel in the Nilgiris, of some rosewood trees for special supply in North Malabar, and some *Xylia* trees from a reserve in South Malabar.

30. *Minor produce and fodder grass.*—Minor produce was generally leased out. Bamboos were removed on permits in six divisions in the Western Circle to meet local demand and for floating timber. The manufacture of catechu in North Mangalore and collection of miscellaneous produce in Kollegal, Kurnool East and West, in parts of Nellore, the Nilgiris and South Coimbatore, were carried out by departmental agency. Permits were issued in several districts for the removal of manure leaves, stones, gravel, etc. In the Kurnool Chentsu agency was employed for the collection of minor produce. In Ganjam, the enjoyment of fruit trees was generally left to the use of the Khonds. In Vizagapatam seigniorage was collected at the weekly markets from purchasers of produce collected by hillmen. Fodder grass was removed on permit in Madura, Coimbatore, and in parts of the Nilgiris and South Malabar and leased in Godavari Lower and Kistna. In Tinnevely grass was as usual included in minor produce leases. Ryots were allowed to cut and remove grass from reserves in all districts except in Chingleput in the Central Circle, where there was no demand, and in North and South Vellore and South Arcot in the Southern Circle. Free removal of thatching grass was allowed in the two Mangalore divisions and parts of the Nilgiris. In Bellary, 450 tons of hay were cut, on contract, against 240 tons in the previous year. The Military Department held leases of areas in Bellary, Anantapur and East Cuddapah and Vellore North at Rs. 2 per ton of hay removed.

31. *Hay making.*—No hay making operations were undertaken by the department during the year.

32. *Grazing.*—The revenue from grazing and fodder grass decreased from Rs. 6,96,334 to Rs. 6,86,571. There was an increase of Rs. 19,628 in the Central Circle, but it was counterbalanced by decreases in other circles. The increase in the Central Circle occurred chiefly in Gunter, which owing to the enhancement of the

grazing fees brought in revenue exceeding by about Rs. 20,000 that of the previous year, and in Nellore, where the kancha system of grazing made good progress. The largely increased revenue realized in these two districts was however counterbalanced by decreases in other districts in the circle.

The decreased grazing revenue explained above is the inevitable result of the disafforestation of large areas of class VI reserves.

33. *Agency of exploitation.*—The subjoined table compares the outturn through all the agencies of timber, fuel, bamboos and minor produce with that of the preceding year:—

year :—

Agency of exploitation.	Timber including sandalwood in cubic feet.		Fuel in cubic feet.	
	1914-15. (2)	1915-16. (3)	1914-15. (4)	1915-16. (5)
(1)				
By Government Agency.				
Northern Circle	250,028	271,447	868,935	649,750
Central "	11,071	19,816	36,063	24,321
Southern "	19,335	17,281	62,294	70,432
Western "	437,121	308,807	640,149	621,608
Total	717,558	617,351	1,607,441	1,366,111
By purchasers				
Northern Circle	1,288,296	906,329	4,459,851	4,074,398
Central "	1,065,163	930,732	6,584,517	6,388,325
Southern "	920,866	798,338	4,777,552	4,239,113
Western "	468,886	379,143	3,937,306	3,218,887
Total	3,743,141	3,014,583	19,759,226	17,920,724
By right holders.				
Northern Circle	194,136	167,198	582,195	582,195
Central " .. ..	.. ..	.. ..	.. ..	.. ..
Southern "	36,175	15,460	.. ..	.. ..
Western " .. ..	.. ..	.. ..	.. ..	.. ..
Total	220,311	182,648	582,195	582,195
By free grantees.				
Northern Circle	85,853	47,520	.. ..	3,462
Central "	38,543	47,728	.. ..	.. ..
Southern "	90,493	18,824	3,984	2,879
Western "	3,791	4,385	340	560
Total	219,680	118,457	4,324	6,921
Grand total	4,900,660	3,933,039	21,953,186	19,874,951

Agency of exploitation.	Bamboo—value in rupees.		Minor produce including grass and grazing—value in rupees.	
	1914-15. (6)	1915-16. (7)	1914-15. (8)	1915-16. (9)
By Government Agency.				
Northern Circle	6,550	4,523	12,844	8,314
Central "	226	13	14,701	8,487
Southern "	201	289	631	583
Western "	5,373	5,772	24,161	20,518
Total	12,350	10,597	52,227	37,962
By purchasers				
Northern Circle	93,180	1,41,664	2,18,695	2,74,819
Central "	14,945	17,301	6,81,218	7,68,001
Southern "	1,01,789	1,10,692	3,82,215	3,78,879
Western "	22,114	85,841	1,47,014	1,87,368
Total	2,32,028	3,05,498	13,74,142	15,52,067
By right holders.				
Northern Circle	552	407	24,649	28,939
Central " .. ..	.. ..	167	151	138
Southern " .. ..	.. ..	.. ..	2,105	1,115
Western " .. ..	.. ..	.. ..	780	.. ..
Total	552	574	27,685	25,192
By free grantees.				
Northern Circle	671	278	2,836	119
Central "	246	.. ..	1,320	813
Southern "	303	454	5,267	5,819
Western "	67	88	270	916
Total	1,287	820	9,693	7,166
Grand total	2,46,317	3,17,489	14,68,747	16,22,207

34. The quantity of timber removed by departmental agency decreased, mainly in the Western Circle, and the decrease was due in *South Malabar* to the smaller yields from the thinnings made in the plantations, and in *South Coimbatore* to the cessation of felling in the Tekkadi leased forests, pending the transport of a large stock lying in the forests. The quantity removed by purchasers was in all the circles less than in the previous year. In the Northern Circle this decrease was due to lack of demand, in the Central Circle to smaller removals from darkhast lands, in all districts of the Southern Circle, except *North Salem* and *Madura*, to a fall in the collection of tree value from lands assigned on darkhast, and in the Western Circle partly to a general fall in darkhast applications for land and in removals from unreserved lands; a lack of demand in *North Malabar* and a reduced outturn in *South Coimbatore* are also reported.

The quantity of fuel extracted both by departmental and private agencies decreased in all the circles except in the Southern, where the quantity removed by departmental agency slightly increased. The decrease in the amount of fuel removed by purchasers is attributed in the Northern Circle to the fact that a large number of plantations were sold in the previous year, in the Central Circle to a fall in the removals from unreserved lands, in the Southern Circle to the facts that a smaller number of coupes than usual were sold in the two *Vellure* divisions and in *Salem North* and *South* and that *patugais* were transferred to the Public Works Department. In the Western Circle, the decrease occurred chiefly in *South Canara* and *North Coimbatore* division but has not been explained.

35. The value of bamboos extracted by departmental agency decreased chiefly in the Northern Circle and is reported to be due to the extension of the contract system of working. The value of bamboos removed by purchasers increased in all the circles.

36. The value of minor produce extracted by departmental agency decreased in the Northern, Central and Western Circles and showed practically no change in the Southern Circle. The value of minor produce removed by purchasers increased in the Northern and Central Circles. There were, however, some small decreases in the other circles. In the Northern Circle, the increase was due to the favourable season and in the Central Circle to large collection of *tangedu* kists in *Bellary*, *Anantapur* and *East Cuddapah* and to the extension of the kancha system and a rise in the demand for mica in *Nellore*.

	Right holders.	Free grantee.
	Rs.	Rs.
Northern Circle	31,439	3,938
Central "	158	5,916
Southern "	1,115	8,608
Western "	6,180	1,905
Total	41,872	22,240

* At reduced rates.

37. The estimated value of forest produce removed by right holders was Rs. 41,872, against Rs. 53,291, and of produce granted free and at reduced rate, Rs. 22,240, against Rs. 29,073.

38. The following statement exhibits the financial results of the year as compared with those of the previous year and with the average of the preceding five years:—

Years.	Revenue.	Expenditure.		Total.	Surplus.
		A. Conservancy and works.	B. Establishments.		
1915-16	Rs. 32,48,175	Rs. 10,97,585	Rs. 16,10,444	Rs. 27,08,029	Rs. 5,40,146
1914-15	30,17,552	10,89,796	16,47,765	27,37,561	3,80,001
Average for the five years ending 1914-15	40,59,440	16,37,808	14,55,618	30,93,426	9,66,014

The revenue fell by Rs. 79 lakh, and the expenditure under A. Conservancy and Works and B. Establishments also fell by Rs. 2.91 and 3.7 lakhs respectively. The net result was a surplus of Rs. 13.31 lakhs, which is Rs. 2.49 lakhs more than that of the previous year and is the highest yet recorded. This large surplus is partly explained by the postponement of all avoidable expenditure on account of the war. The Central Circle stands first with a surplus of Rs. 6.04 lakhs and the Southern Circle next with Rs. 4.61 lakhs, against Rs. 4.39 lakhs and Rs. 3.22 lakhs,

the figures for the previous year. The Northern Circle shows a surplus of Rs. 73 lakh against Rs. 39 lakh in the previous year, while the Western Circle returns an unprecedented surplus of Rs. 1.93 lakhs against a deficit of Rs. 1.19 lakh in the previous year. One noticeable feature of the year under this head was that the surplus was distributed over all the circles.

39. The noticeable variation was the increase of Rs. 91 lakh which occurred in the Central Circle and was due mainly to higher grazing receipts in *Guntur* and *Nellore* and to heavier receipts under minor forest produce in several districts of the circle. There was also an increase of about Rs. 60 lakh in the Western Circle, due mainly to the better prices realized by the sale of elephants, the leasing of additional lands, increased rents from the Anamalai estates and larger sales of timber in four forest divisions. This was counterbalanced by a large decrease of Rs. 2.04 lakhs in the Southern Circle, accounted for by the sale in the previous year of valuable *casuarina* plantations in *South Arcot* and *Tanjore*, the transfer of the control of forest padugais to the Public Works Department, and, generally, to the concentration of work on hill rather than plain forest. The increase in the Northern Circle was small and calls for no remarks.

40. The expenditure under "A. Conservancy and Works" decreased by Rs. 2.92 lakhs, the abnormal expenditure of last year being due mainly to the acquisition of the Mudumalai and Kumbarakolli forests in the *Nilgiris* (Western Circle) at a cost of nearly Rs. 1½ lakhs. During the year expenditure was curtailed, mainly under the head of "Communications and buildings," on account of the war. In the Central and Southern Circles, the further reason assigned for the decrease is the abandonment of cultural operations, the absence of any large expenditure such as was incurred last year on account of compensation for acquisition of land in *Guntur*, and the reduction in the number of watchers in the Southern Circle.

Expenditure under "B. Establishments" also decreased in all circles except the Western.

41. *Administration*.—The Hon'ble Mr. H. F. W. Gillman, I.C.S., was head of the forest administration throughout the year. He toured in the districts of *Nellore*, *North Arcot*, the *Nilgiris*, *South Arcot*, *Coimbatore*, *Mangalore*, *South Malabar*, *Ganjām* and *Chingleput*. His inspection in the *Nellore* district was in connection with the settlement of the Mutharachas and Madigas who had been evicted from the Udayagiridurgam hill reserves. In *South Arcot* and *Chingleput*, the Forest Commissioner visited many forests and examined the classification and suitability for panchayat management of some of them. Copies of the inspection notes recorded at the time have already been submitted to Government. The tour in *North Arcot* was in connection with the future administration of the Puliyur-Kambugudi enclosure in the Jayadis; Government passed orders on the Board's proposals in G.O. No. 2687, Revenue, dated 3rd December 1915. On the *Nilgiris* Mr. Gillman inspected the demarcation of reserves in progress and the new district boundary between the *Nilgiris* and *Coimbatore*. The new township and the estates on the Anamalais were inspected in the *Coimbatore* district. In his tour in *South Canara*, the Forest Commissioner visited forests from which overmature timber was being extracted, was convinced that other forests in the district remained unexploited owing to want of establishment and soon after obtained the sanction of Government for the immediate bifurcation of the district.

42. Mr. P. M. Lushington was in charge of the Southern Circle throughout the year. Mr. A. W. Lushington held charge of the Northern Circle until the 21st September 1915, when he retired from service and was succeeded by Mr. F. L. C. Cowley-Brown. Mr. S. Cox held charge of the Central Circle until 17th December 1915 and Mr. H. B. Bryant for the rest of the year. The charge of the Western Circle was held by Mr. C. D. McCarthy up to 12th April 1916 and by Mr. H. A. Latham for the rest of the year. The Conservators inspected all the District Forest offices, except those of *Bellary*, *Anantapur*, *Madura* and *Tinnevely*. The offices of the first-named two districts were inspected after the close of the year. The Conservators also recorded inspection notes of the forests visited by them in the districts of *West Arcot*, *North Vellore* (for the Ameredi plantation), *Chittoor*, *South Salem*, *Trichinopoly*, *South Arcot*, *North Vellore* (for the Ameredi plantation). The touring of the Conservators of

Forests, Northern, Central and Southern Circles, was adequate; the touring of the Conservator, Western Circle, though short, has been satisfactorily explained. All District Forest offices, except those of *West Cuddapah*, *Trichinopoly*, *Madura*, *South Canara* and *South Malabar*, spent a sufficient number of days in touring; the short touring of the excepted offices has also been satisfactorily explained.

All range offices except two in each of the districts of *South Kurnool* and *South Coimbatore* and one in each of the districts of *Nellore*, *Tinnevely* and *Central Coimbatore* were inspected by the District Forest Officers. The accounts of District Forest offices except those of *Bellary*, *South Malabar* and *North Coimbatore* were inspected by auditors from the Accountant-General's office and the results were reported to be generally satisfactory.

43. An important change in the administration was effected by G.O. No. 260, Revenue, dated 7th February 1916, which modified the relative position of the District Forest Officer and the Collector. The District Forest Officer was declared to be the head of the Forest Department in his own district and the Conservator was made responsible for, and given control over, all professional, departmental and financial matters in his circle and invested with independent authority regarding the appointment, transfer and punishment of subordinate forest officials. These orders gave rise to some misapprehension and as the result of a discussion of the subject which the Forest Commissioner held with the Conservators in June last, the Board requested Government to define more clearly the relation between the Collector and the District Forest Officer. The work of classifying the forests in accordance with the orders of Government passed on the reports of the Forest Committee has been completed in all districts, except a portion of *Kurnool East*, and *South Arcot*.

Mr. E. A. Davis, I.C.S., continued on special duty for the purpose of accelerating the introduction of panchayats for the management of forests in which grazing was of primary importance. His special duty terminated on 21st August 1916. In the course of his tours he visited all the districts in which there was a good prospect of introducing the panchayat system and selected areas suitable for panchayat in consultation with the Collectors and District Forest Officers. The Board has already recorded its appreciation of the good work done by Mr. Davis.

During the year 117 panchayats have been managing 181,273 acres (nearly 210 sq. miles) of reserved forests and unreserved land declared reserved land for the purposes of panchayat management. In the previous year there were only 76 panchayats, managing about 56 sq. miles.

The reports received on the working of the panchayats show that on the whole they have worked well. In a few instances goats were allowed to browse in the forest and there was overgrazing, illicit felling and hacking for manure leaves. The Board has expressed its opinion that these defects may be largely ascribed to ignorance, and that there is a disposition to remedy defects where these have been pointed out. The sympathy and supervision of the Revenue Department and especially of Revenue Divisional Officers will be essential if the panchayat system is to be a success. The report of Mr. H. M. Hood, I.C.S., who was placed on special duty for the civilisation of the Chentais on the Nallamalais in the Kurnool district is under the consideration of Government.

Proposals have been submitted for the reorganisation of the controlling staff of the Forest Department. Similar proposals will shortly be submitted for the subordinate staff. The appointment of a Special Forest Officer on a salary of Rs. 350-50-700 for the Golconda agency and Hail Madgole in the *Vizagapatam* district was sanctioned by Government and Mr. N. E. Shrigley was appointed to the post. Government have also sanctioned a permanent post of Special Veterinary Inspector for the charge of elephants in the Forest Department on a salary of Rs. 125-17½-300.

An additional forest charge was sanctioned and formed in *South Canara*. Government have also sanctioned the division of *North Arcot* into three forest charges but the scheme has not yet been given effect to. The proposal to constitute a third forest division in *Cuddapah* has also been approved by Government. *Kurnool* and *Godavari* will be dealt with next on the same lines.

44. An industrial exhibition was held in Madras during the Christmas week of December last under the auspices of the Madras War Fund Committee, of which His Excellency the Governor was the President. Mr. Bourne was in immediate charge of the Forest section and was responsible for the excellent arrangement of the exhibits most of which were drawn from the Gass Forest Museum at *Coimbatore*. The section was granted a diploma of excellence by the Exhibition Committee.

45. The present Forest Commissioner has not been in charge of the department long enough to justify his making any comments on the work of the Conservators.

Among District Forest Officers, Mr. Arbuthnot in *Nellore* is reported to have worked hard and well during the year. In *Madura* Mr. A. B. Jackson's vigour and energy is remarked upon by the Collector. M.R.By. K. R. Venkatarama Ayyar was promoted to the class of Extra Deputy Conservator for exceptionally good work in *South Vellore* and Mr. C. P. Wilson has done excellent work as Special Working Plan Officer.

The Forest Assistant M.R.By. Rao Sahib K. Gundu Rao Avargal received his title during the year for good work.

46. *The Forest College, Coimbatore.*—One important event of the year was the opening of the new college buildings by His Excellency Lord Pentland who had himself laid the foundation stone of the buildings in April 1913. His Excellency, for the second time during the year, honoured the college with his presence on the 29th June, when he gave away the certificates and prizes, including the Pentland Shield of which His Excellency was the donor; the shield is awarded to the best all-round athlete of the year, and is tenable for one year only. At the close of the year the third batch of students passed out of the college. They were 29 in all, of whom one, a Government student, won the honors certificate and carried away most of the prizes. Seventeen obtained the higher standard certificates and five the lower standard, and six failed to qualify for any certificate. The final examinations in all the subjects were conducted by examiners from outside the staff of the College. But for the rule, brought into force for the first time, that conduct marks are not to count towards the marks necessary for qualification for the several certificates, the Principal states two more students would have obtained honours certificate.

The high proportion of failures is attributed to the low standard of intelligence and the poor educational equipment of these students. Conservators have been requested to make a more judicious selection in future, and the Principal has been instructed to send down such as do not possess the capacity to follow and profit by the course as soon as the fact is apparent; on this point he should be in a position to decide in the early part of the course, after the results of the first periodical examinations are known, at the latest. The examiners have given some useful practical hints for the training of the students and the Principal has noted them.

The 1915-17 division started in August 1915 with 36 students, of whom four were sent down in December as unfit for training, and one was dismissed for misconduct. There thus remained 31 in residence at the close of the year. Two more were subsequently removed, and the second year course of 1915-17 started with 29 students.

47. *General rules under the Forest Act.*—The working of the timber and sandalwood transit rules was satisfactory. The revised timber transit rules for *South Malabar* division were sanctioned and introduced from 1st April 1916. The revised rules for the collection and disposal of driftwood were sanctioned and brought into force during the year in *Godavari Upper*, *Lower*, and *Kistna*. The people generally availed themselves of the privileges allowed by the rules under section 26 of the Forest Act and there were no complaints of any importance except from *Kurnool West*, where a good deal of timber was smuggled from the unreserved in the *Yerramalais*.

Improvement of water-supply in Government grazing grounds (G.O. No. 1622, Revenue, dated 4th June 1914).—In the Northern Circle, wells and forest springs were repaired or deepened in *Kistna*, *Godavari Lower* and *Kurnool East* and *South*. In *Kurnool West* on account of the war no works were undertaken and in the remaining

districts in the circle no measures were considered necessary during the year. In the Central Circle, new wells were dug in *Anantapur*, and the existing ones repaired or deepened in *Guntur*, *West and East Cuddapah* and *Nellore*. In *Chingleput*, the ryots of a village were permitted to repair the tank in *Acharapakkam* reserve for the use of the village cattle. Nothing of the kind was done in other districts. In the Southern Circle, some progress was made with the repair of wells and tanks in the two *Vellores* and *North Salem*. It is reported that in *South Vellore*, the Director of Industries is conducting boring operations with a view to introducing "tube-wells" and that the introduction of these wells will go a great way towards improving the drinking-water supply and thus conduce to the reduction of fever on the *Javadi*. No measures in this direction were considered necessary in the *Western Circle*, except in two divisions of *Cumbalure* where, for want of funds, nothing was done, and in *South Cumbalure* where the grazing question still remained unsettled.

Opening of small coupes in the vicinity of villages for rural supply—Paragraph 20 of the *Orders of Government on the Forest Committee's Report*.—The Conservator, Northern Circle, reports that coupes in convenient localities were sold to contractors to meet the wants of the people living near the forests. In the Central Circle coupes were opened wherever there was a local demand, in the Southern Circle the sale of fuel at the edge of the forests was generally conducted by coupe contractors; in the Western Circle no such measures were necessary, as the demand for fuel was met from coupes sold to contractors and other sources.

Patrol system—Paragraph 22 of the *Government Order on the Forest Committee's Report*.—In the Northern Circle, the system has been introduced in all divisions except *Upper Gōdāvari*, and its working is reported to be satisfactory in *Kurnool East and South*. The system is being tried in all districts in the Central Circle, except *Anantapur*, *Chittoor* and *Chingleput*, and the work of the patrol parties is reported to be satisfactory in the districts of *Guntur*, *West and East Cuddapah*. In the Southern Circle, the system was continued in *North Vellore*, *South Arcot* and *South Salem*, but owing to the smallness of the establishment it was scarcely a success. In the Western Circle the system was tentatively introduced in only one district, *Central Cumbalure*, and that was after the close of the year. It is hoped that, when the reorganisation of the subordinate staff, which will shortly be submitted to Government, is sanctioned and brought into force, the working of the system will be attended with better success.

Inducement of villagers to aid in the work of conserving adjoining forests—Paragraph 22 (2) of the *Government Order on the Forest Committee's Report*.—Government have passed orders on the Board's proposals for the introduction of the forest village system into the Madras Presidency which is designed to secure the co-operation of the people in the working of the Forest Department by giving them an interest in the result. It is hoped that an improvement may be anticipated from the operation of the scheme in the efficient protection of forests. The extension of the kancha system of grazing in *Nellore* is an instance in point.

48. *Forest Conference*.—Three conferences were held by the Forest Commissioner with the Conservators of Forests during the year—two at *Cumbalure* and one at *Madras* and various forest matters were discussed. In July 1916 His Excellency the Governor held an informal conference with the Revenue and Forest officers of the *Kurnool* district.

49. *Forest literature*.—Mr. R. D. Richmond, Deputy Conservator of Forests, had a Manual of Sylviculture under preparation and M.R.Ry. K. R. Venkataramana Ayyar, Extra Deputy Conservator of Forests, had in hand a Manual of Range Administration.

50. A memorandum of minor discrepancies found in the circle reports is appended.

(True Extract)

H. R. PATR,
Secretary.

To the Secretary to Government, Revenue Department, with Appendix.

APPENDIX.

NORTHERN CIRCLE.

(1) *Form No. 71*.—(a) The figures 391 and 148 in the column "Total cases" against A and B in the *Visagapatam* district are mistakes for 148 and 391.

(b) The number of compounded cases is shown as 2,410 in the column of "Acquittals" in the statement, while it is shown as 2,467 in paragraph 13 of the Circle report.

(2) *Form No. 72*.—(a) The figures 66,365 and 498,706 against Total *Kurnool West* are mistakes for 84,274 and 470,797.

(b) The figures 485,608 and 2,512,461 against Grand total are mistakes for 453,517 and 495,552.

(3) *Form No. 74*.—The figure in column 27 against *Gōdāvari Upper* is a mistake for 1,077.

(4) *Form No. 76*.—(i) The figures 315,914, 430,190, 131,386 and 395,333 against Grand total in page xii are mistakes in totalling for 302,292, 416,577, 144,958 and 408,955 respectively.

(ii) The figures 513,256 and 1,907,146 entered in column 32 "Total outturn" at page xii against "Gōdāvari Lower" and "Total, unreserved lands" in the set of figures below IV Unreserved lands are mistakes for 514,056 and 1,908,946.

(5) (a) In the first statement at page 12 of the Circle report, the figures shown under the column Fuel in cubic feet against "Purchasers (including confiscation)" viz. 445,985 and 4,074,398 are mistakes for 4,459,851 and 4,074,398.

(b) In the same statement the value of bamboos removed by departmental agency during 1915-16 is shown as Rs. 4,523, while in Annual Form No. 77 at page xiv of the appendices it is shown as Rs. 4,538. The discrepancy has not been explained.

(6) In Form No. 80 at page xviii of the appendices, the cost of forest settlement is shown as Rs. 193, in the district of *Ganjam* (Rs. 57) and *Gōdāvari Lower* (Rs. 136), while in column 13 of Form No. 86 it is shown as nil. The discrepancy has not been explained.

CENTRAL CIRCLE.

(1) *Form No. 67*.—In the districts noted in the margin, the totals of columns 3 and 4 of the return do not agree, as they should, with column 5 of the previous year's return at page xii of the appendices to the report for 1914-15. The discrepancies should have been explained by adding a footnote to the return.

	Column 3 and 4.	Column 5 of the previous year's return.
	RS.	RS.
Madras	1,746	1,746
Cuddapah West ..	1,378	1,378
Nellore	2,069	2,069
Chingleput	868	868
Chittoor	1,447	1,470

(2) *Form No. 71*.—Forest offences withdrawn as well as those compounded should be exhibited under the heading of "Acquittals" in columns 11 and 12 with reference to G.O. No. 1101, Revenue, dated 8th May 1915.

(3) *Form No. 77*.—The value of grazing and fodder grass removed by purchasers is shown as Rs. 3,21,843 in column 5 of the statement, while in Form No. 80 the revenue realised from the Circle from the same source is shown as Rs. 3,18,777. The discrepancy has not been explained.

(4) In Form No. 80 at page xv of the appendices the cost of forest settlement is shown as Rs. 152, Rs. 781 and Rs. —73 in the districts of *Cuddapah West*, *Cuddapah East* and *Nellore*, respectively, while in column 13 of Form No. 86 it is shown as nil in each of these districts. The discrepancy has not been explained.

SOUTHERN CIRCLE.

(1) *Form No. 65*.—(a) The total of column 8 excluding 13 acres of reserved land referred to is 46,862 and not 46,865.

(b) The area of reserved forests, viz., 2,781,672 acres, works out to 4,346 square miles and not 4,347 square miles as shown in column 7 of the return.

(2) *Form No. 67*.—The cost of demarcation in the *Tinnevely* district is entered as Rs. 614 in the last column of the statement. In Form No. 80 at page xviii of the appendices, it is shown as Rs. 466. The discrepancy has not been explained.

(3) *Form No. 71.*—Pages viii and ix of the appendix—

- (i) 110 (a) entered in column 2 against *Trichinopoly* is a mistake for 116 (a).
 (ii) The figure "7" entered in the column of "Acquittals" against *Tinnocelly* is evidently a misprint for 9.
 (iii) Forest offences withdrawn as well as those compounded should be exhibited under the heading of "Acquittals" in columns 11 and 12 with reference to G.O. No. 1101, Revenue, dated 8th May 1915.

(4) In *Form No. 80* at page xviii of the appendices, the cost of forest settlement in the several districts in the Southern Circle is shown as Rs. 8,960, while in column 14 of *Form No. 66* it is shown as Rs. 2,909. The discrepancy has not been explained.

WESTERN CIRCLE.

(1) *Form No. 71.*—Forest offences withdrawn as well as those compounded should be exhibited under the heading of "Acquittals" in columns 11 and 12 with reference to G.O. No. 1101, Revenue, dated 8th May 1915.

(2) *Form No. 71.*—The value of grazing and fodder grass removed by purchasers is shown as Rs. 78,658 in column 5 of the statement. In *Form No. 80* the revenue realized from the same source is shown as Rs. 79,322. The discrepancy has not been explained.

(3) In *Form No. 80* at page xxi of the appendices the cost of forest settlement in North Coimbatore is shown as Rs. 326, while in column 14 of *Form No. 66* it is shown as nil. The discrepancy has not been explained.

Order—No. 246, Revenue, dated 26th January 1917.

Forest No. 11-A.

Recorded.

2. *Paragraph 4 of the Board's Resolution.*—The Government note that some progress has been made in forest settlement in the Upper Godavari Forest division the slow progress in which was the subject of comment in paragraph 2 of the Government review for the previous year. It is observed, however, that much still remains to be done.

3. *Paragraphs 11, 12, 13 and 18 of the Board's Resolution.*—The Government are glad to see that there has been a decrease in the number of forest offences. There has, however, been an increase in incendiarism, which is not altogether explained by the dryness of the season. It is hoped that the further extension of the system of forest panchayats and the introduction of the forest village system may result in a reduction in the number of fires by giving villagers more personal interest in the preservation of neighbouring forests.

It is noted that the assistance of hill tribes is being enlisted on the side of the Forest Department, a fact which is creditable to all local officers concerned. Some trouble has been experienced with the Chentsus of East Kurnool division; but the relations between them and the department may be expected to improve as a result of the recent appointment of an officer to exercise special supervision over this tribe.

4. *Paragraph 43 of the Board's Resolution.*—The number of forest panchayats has increased from 76 to 147 and the area managed by them from 56 to 210 square miles. There is still a large area capable of being brought under private management if the Board's anticipation in its last report that one-tenth of the area of reserved forests will ultimately pass out of departmental control is ever to be fulfilled. But, as has recently been pointed out by Government, it is absolutely necessary to proceed with caution and to make sure that the earliest panchayats in each district are started under conditions which promise successful working.

5. *Paragraphs 21 to 24 of the Board's Resolution.*—The reduction in the number of animals licensed to graze in reserved forests is attributed in part to the spread of forest panchayats. The introduction of the forest village system should tend in the

same direction. A further reduction in the grazing incidence is necessary in many districts, as shown by the Conservator of Forests, Southern Circle, in paragraph 67 of his circle report. The Board of Revenue is requested to note on the subject in its next report in such detail as may be found necessary.

6. *Paragraph 38 of the Board's Resolution.*—The financial results of the year's working are not so satisfactory as they seem for the reason that the unusually large difference between receipts and expenditure is due to the restriction of capital expenditure in accordance with the policy of rigid economy imposed by the war.

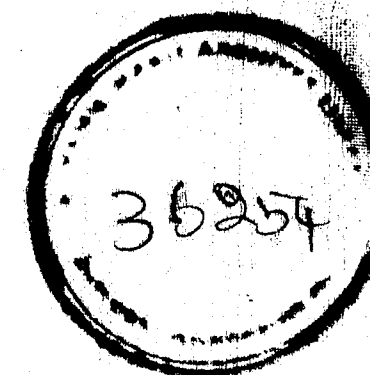
7. *Paragraph 43 of the Board's Resolution.*—The Government have received proposals for the reorganization of the controlling staff of the Forest Department and have addressed the Government of India on the subject. The Board's proposals for the reorganization of the subordinate staff are awaited.

8. *Paragraph 46 of the Board's Resolution.*—The number of failures at the Forest College is regrettably large. The Board of Revenue has reported repeatedly in this matter, and their suggestions have received the approval of the Government.

(True Extract)

A. R. KNAPP,
Acting Secretary to Government.

To the Board of Revenue, Land Revenue (Forests).
 " Accountant-General.
 " Government of India, Department of Revenue and Agriculture (with C.L.).
 " Inspector-General of Forests (with C.L.).
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