

ANNUAL REPORT
OF THE
FOREST ADMINISTRATION
IN
CYPRUS

FOR THE YEAR 1933.

BY
Dr. A. H. UNWIN, O.B.E., M.E.F.A., M.C.S.F.E.,
CONSERVATOR OF FORESTS.

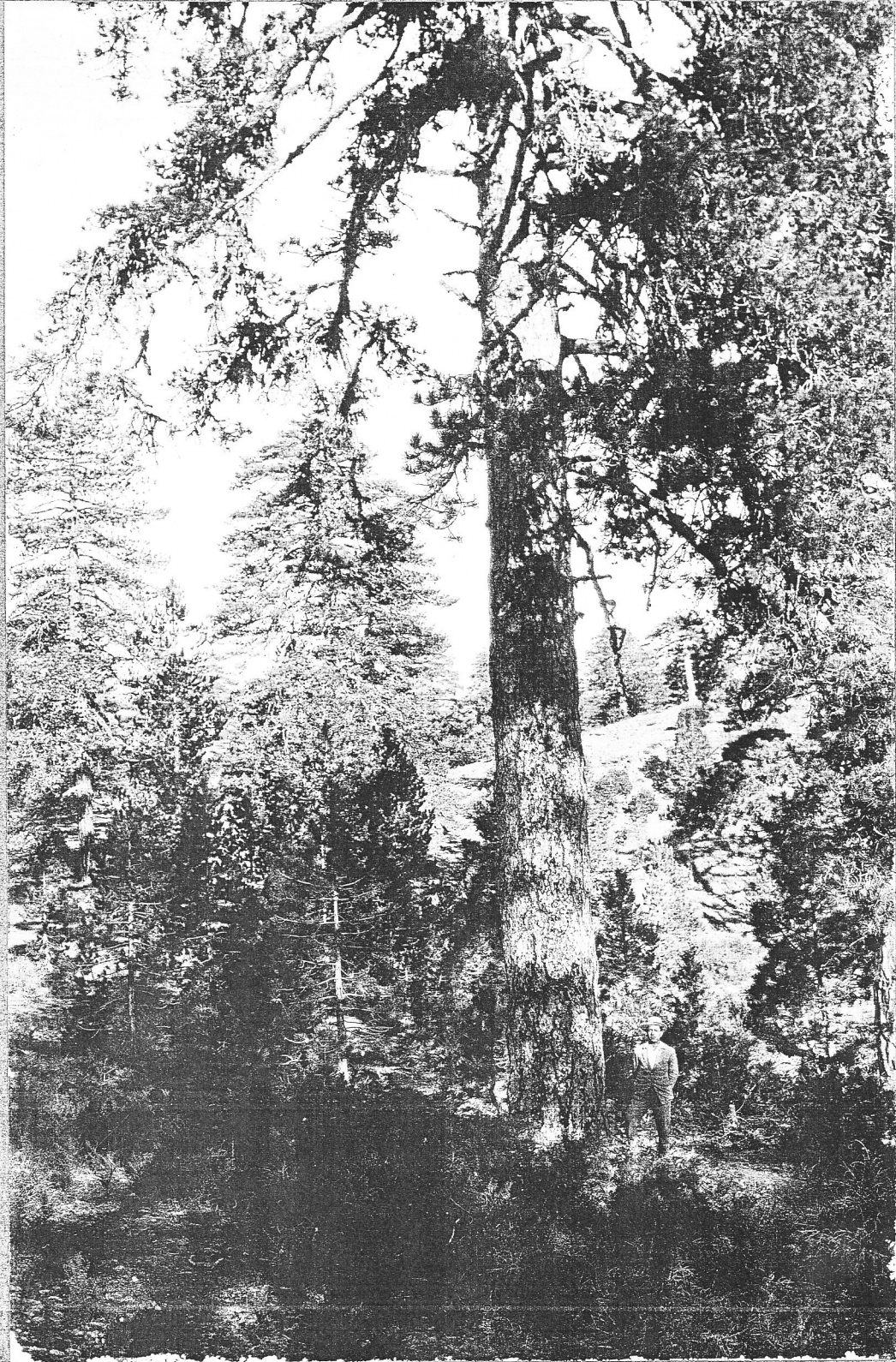


Photo : A. H. UNWIN.

**TROODOS PINE PINUS NIGRA VAR CARAMANICA 12'-6" WITH SELF SOWN
SEEDLINGS UNDERNEATH AND BEHIND ELEVATION 5,300 FT.**

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PUBLISHED BY THE AUTHOR

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CHAPTER I. CONSTITUTION OF STATE FORESTS

1. Alteration in Area.

During the year the Forest area was reduced by 2,866.18 acres, owing to recomputation, concessions and relinquishments. The total area is now computed to be 402,236.77 acres, equal to 628.49 square miles or 17.54 per cent of the area of the island.

2. The following figures show the changes during the year, in acres :-

Area of Forests on 31.12.1932.	405,102.95
Acquisitions made during the year.	5.00
Total area.	405,107.95
Less :-	
Area conceded and given up.	26.25
Area relinquished.	49.35
Decrease found in recomputation.	2,795.58
Total area on 31.12.1933.	402,236.77

3. It is estimated that there are also 23 square miles of private forests, woodlands and plantations, and 7 square miles belonging to Churches, Mosques and the Evkaf Department.

2. Demarcation.

4. Owing to the shortage of funds, only very few cairns were renewed or repaired by the forest staff, without direct labour cost.

5. Details of work done and cost incurred, including Survey and Working Plans, are given in Appendix 1.

3. Forest Survey.

6. New stock maps were completed during the year for Adelphi Forest, thus the total area for which working plan stock maps are now available is 58,708.98 acres in addition to the old area.

7. During the year 19,200 acres of forest area were surveyed topographically by the Land Registration and Surveys Department. The total forest area surveyed topographically up to 31.12.1933 was 153,176 * acres, leaving an area of 249,060.77 acres, yet to be surveyed.

8. The mining and prospecting areas in the forests were 11.14 and 10.75 square miles respectively, as against 11.90 and 9.75 square miles respectively in 1932. The percentage of these in 1933, compared to the total forest area was 1.77 % and 1.70 % respectively.

CHAPTER II. MANAGEMENT OF FORESTS.

1. Preparation of Working Plans.

9. Mr. G. W. Chapman, Assistant Conservator of Forests, reports as follows on the work carried out by him during the year, on the Working Plan for Troodos Forest :-

- (1) «By the end of January the Troodos Working Plan draft had been completed and forwarded to the Conservator of Forests for scrutiny. During the ensuing months copies of the report, appendices and plans were prepared and the working plan forwarded to Government for sanction. The plan was put into operation, provisionally, in June, 1933.
- (2) In May, I was transferred to Platani to assist the Assistant Conservator of Forests in charge in the initial stages of the plan's operation. Apart from helping in general divisional work and particularly in making fellings for the 1933 yield I concentrated especially on familiarizing the Troodos Staff with the various functions of the working plan and with the usage of compartment control forms.
- (3) During the Autumn a series of permanent sample plots, five in the Troodos pine (*Pinus nigra* var. *caramanica*) working circle, and four in the Aleppo pine circle were established and enumerated. All trees in these plots above one foot girth at 4 1)2 feet from the ground were numbered and ringed with white paint, and girths and heights of each measured.
- (4) In accordance with the prescriptions of the working plan compartments 405 and 22 one in each of the pine circles were

* The figures given in para 8 of 1932 Report are for the plane table survey.

enumerated on an 100 o/o basis. All stems were recorded in five foot height and half foot girth classes, and the results summarised by volume and stem sectional area according to subcompartments (quality classes).

- (5) The opportunity was also taken of collecting further data for form factors for Troodos pine and for stem sectional area to whole stem volume ratios for both Troodos and Aleppo pine.
- (6) A full report on the operation of the Troodos working plan during the year is in the course of preparation and will be submitted in due course,,.

10. Mr. M. E. Dommen, Assistant Conservator of Forest, reports as follows on the work carried out by him during the year, on the Working Plan for Adelphi Forest :-

- (1) "I beg to report that from 1.1.33 to the middle of August I was engaged on field work in Adelphi, reconnaissance, mapping and enumeration. My staff consisted of 1 Temporary Mounted Forest Guard, 2 Assistant Forest Surveyors 1 Staffman and occasional labourers and expenditure incurred, apart from travelling expenses was £ 30.
- (2) The area was divided into 6 Blocks and 454 apartments: the average area of compartments is 68 acres. In almost every case compartment boundaries are well defined natural features.
- (3) Four crop types were recognized, (a) pure pine, (b) pine with golden oak coppice, (c) pine with mixed golden oak and arbutus coppice, (d) mixed hard wood crops, confined to stream beds and the moister gullies. Three main site classes were tentatively made, with separate consideration of recently burnt areas in addition 3 % of the total main forest area was enumerated in full by personally selected sample plots; compartments formed the units of enumeration.
- (4) The results of the field work were incorporated in finished maps scale 1 / 5000, compartment registers and in part I (Descriptive) of the working plan, while statistics of growth, stem analysis, volume table, summary of areas etc. were also completed as appendices. The topographical maps show block and compartment boundaries, types of crops, and site classes. Enumeration results compartment by compartment are in the compartment register, while summaries per block and for the whole forest were also made. The forest was found to contain

in round figures a total volume of pine (true stem volume over-bark), of 26,500,000 cubic feet * with 2,800,000 trees, and over 1,000,000 stools of golden oak.

- (5) From the third week in August to the third week in November, I was on vacation leave; on my return I began drafting the working plan prescriptions, but in the beginning of December I was placed on Divisional work as acting Assistant Conservator of Forests, Nicosia, and had to interrupt working plan work.»

2. Utilization Section.

11. The following is an abbreviated account from the report of work done by Mr. F. S. Danks, the Assistant Conservator of Forests, Utilization Officer :-

- (1) In the early months of the year, during convalescence from illness, he was given every facility to give practical demonstration at the Nicosia Sawmill, Timber and Implement Stores, of such methods, as are employed by up-to-date sawyers, in cutting up stumpwood for panelling or veneers, matching up the grain of timber, the use of tools generally etc. Moreover the Timber Store Superintendent was given full instructions by example as to the best methods for the proper stacking of different species of timber.
- (2) A portable charcoal kiln, designed by the Utilization Officer in 1931 as an experiment was constructed by the Public Works, for the Forest Department, last year. The charcoal thus manufactured is of best quality and free from any moisture, earth etc. The kiln on its inaugural run gave the exceptionally high yield of 30 per cent of charcoal by weight. The results are gratifying and encouraging. A higher price for the product was obtained than that for the ordinary locally made charcoal.
- (3) On resuming duty at Stavros, the Utilization Officer started on the plans of Moumourous Sawmill. At first the problem did not seem to be a difficult one. But when the question of shafting, pulleys, belts, etc. came to be considered it was found that he was confronted with an exceedingly intricate and exacting task. The ultimate lay-out was not one which he would have normally considered admirable, but with the execrable remains of anti-

* The enumeration of 1921)25 showed an estimated total of 13,282,540 cubic feet, quarter girth, under bark.

quoted machinery at his disposal, lack of funds, and circulars enforcing the most rigid economy, he does not think that Moumouros is a failure. In fact so far as the foundations etc. are concerned, it is, to his personal knowledge the best in Cyprus. Unexpected difficulties were met, when digging out the site. From the surrounding geology, it seemed reasonable to expect a rocky base for the Sawmill, instead of which it was of a gravelly nature. The site will prove admirable in later years for seasoning purposes as the drainage is excellent.

- (4) All Sawmills in Paphos Forest were inspected, especially to obtain extra parts for Moumouros Sawmill and to give instructions as to overhauling etc.
- (5) By the end of June, 1933, the Utilization Officer was transferred to Halefka Forest Station, the reason being that he would be in closer touch with Nicosia and the increasing Utilization work there. Also personal and his wife's illness had made Stavros an unsuitable centre for him, owing to its remoteness from a medical officer. His wife subsequently died in Nicosia.
- (6) The Utilization Officer gave instructions at Nicosia as to the most economical use of the so called «waste wood» from any carpenter's shop. The main point was to stimulate private enterprise and show how each piece of wood, however small, may be used to the best advantage, for making articles of one kind or another, rather than burnt. His efforts were successful at the Halefka carpentry shop, where ample concrete examples have been given of what can be done with waste wood, e. g. belts, bracelets etc. etc. During the year, he trained his own carpenter most thoroughly in modern methods, and a great variety of articles of new design were got out and sent to Nicosia or Troodos for sale. The new designs were also copied and demonstrated as well as sold.
- (7) The Utilization Officer in Nicosia visited several other local carpenters and gave instructions on new methods of «Lamin-wood».
- (8) It was impossible to conduct any experiments in research owing to the lack of funds and special appliances. Nevertheless, several were attempted by the Utilization Officer. The principal ones were for the benefit of village industries, with a view to promoting an interest in the better utilization of minor forest products, such as small pieces of wood. In the better utilization

of minor forest products, the Utilization Officer made several pot-scrubbers from thyme and these proved, that they could compete with heather in such a capacity.

3. Communications and Buildings.

(a) Roads, Paths and Bridges.

12. In April the Kannavia-Spillia road in Adelphi Forest was completed and very kindly opened by His Excellency the Governor Sir R. E. Stubbs.

13. The making of the road between Platres-Mesapotamos Monastery to Hadjictori was continued 10 ½ miles in all being now complete, from the beginning of the work in 1932.

14. During the year 8.80 miles of forest roads and 7.60 miles of forest paths were made in all the forests, compared with 13.50 and 4.20 miles respectively made in 1932.

15. The total length of public, village and forest roads, bridle and footpaths, fire traces and compartment lines made up-to-date is 1,187.70 miles. Details of all roads etc. built or repaired, are given in Appendix 2.

16. Owing to the prevailing economic crisis and the drought in many parts of the island, £ 205 were granted by the Commissioners for Relief and work was provided by the Forest Department on the construction of 3 ½ miles of various roads and paths in Adelphi and Paphos Forests.

17. During the year 8 bridges were constructed at a cost of £ 81 and 13 others were repaired at a cost of £ 42.

(b) Buildings.

18. Only minor repairs and replacements of worn-out parts to the Forest Stations were possible during the year, owing to the reduced provision. Many of the buildings are now very old and need re-building or major improvements, in order to provide suitable housing accommodation for the Staff, several of whom are trained and better educated, than those originally occupying the huts years ago.

4. Protection.

(a) General Protection.

19. The number of forest offences detected during the year was 8,919 as against 9,149 in 1932. Owing to the continual drought and

the very poor economic position of the peasants, many hundreds of persons were let off, and many cases were compounded solely for the value of the produce stolen.

20. Owing also to the very bad financial position of the peasants less persons were willing to compound their cases than in previous years. Many people cut trees and stole fuel and other forest produce, as they said it was surely preferable than breaking into the houses and stealing personal property.

21. Continuous efforts were made to reduce the number of cases taken up and be as lenient as possible under the depressingly poor economic conditions, prevailing in many parts of the island.

22. Full details of forest cases are given in Appendix 3.

23. Since the guards were withdrawn from the Railway Line Plantation in 1930, nearly all the acacia trees have been destroyed, either by grazing or cutting. Very many of the cypress and a large number of eucalyptus trees up to about one foot in diameter have been cut down or damaged.

24. Other examples are the plantations near Kapouti village, which have been almost quite wiped out, since they were relinquished.

25. The relinquishment of forest areas has been interpreted by the goatherds and forest thieves as a weakening of control and that forest property can be attacked and excessive damage done.

26. Damage has also been done to the forests and plantations of Larnaca Circle, to the forests near Cape Greco and to the forests on the Northern Range in Kyrenia District. This is chiefly due to the poverty of the people in consequence of the two years' drought.

(b) *Protection of Forests from Fire.*

27. During the year 89 fires occurred, one of which assumed serious proportions (over £100 damage). 24 of these fires occurred in the Karpass, but owing to the strenuous and tireless efforts of the Assistant Conservator of Forests, Mr. I. Sidki, in charge of this Division, 7 incendiaries were subsequently convicted by the Courts.

28. In the whole Island, a total area of 856 acres was burnt over and 62,796 trees and bushes of different species were either burnt or damaged. The damage to the forests by fire is estimated at £576 for the year.

29. The Forest Department telephone system was further extended

in Adelphi Forest by six and now reaches a total length of 255 ½ miles.

30. Owing to the smallness of funds, only £7.18.0 cp. were spent for the purchase of a few much needed fire-fighting tools.

31. The year 1933 was an exceptionally dry one, and consequently the fire-hazard was very high, but fortunately the season was cooler, much later, than usual. The average rainfall for the island was 11.59 inches, as against 13.42 inches in 1932, 17.82 in 1931, and 24.14 in 1930. The average for the last 10 years was 19.49 inches and for the last 20 years 18.86 inches.

32. The maximum rainfall was 27.90 inches on Troodos (5,650 feet above sea level), and the minimum 3.91 inches at Strongylo Reservoir (180 feet), as against 36.68 and 4.99 inches at the respective places in the previous year.

33. In Appendix 4 a return is given, showing the rainfall in the forests, during the year with comparative figures for 1932.

34. During the year there was also heavy dew in several places and the air was damper at night than was usual in summer. Except for 2 periods of about 3 days each, the sun was not so burningly hot or the temperature so high, as is usually the case between the middle of August to the end of September.

35. Owing to the drought and lack of water, there is no doubt that most of the peasants realised the great value of the forests and the extreme danger from forest fires in this particular year.

36. The reduced number of staff and lack of enough forest roads, however, militated against the most rapid detection and suppression of any forest fires occurring.

37. An analysis of the expenditure under Forest and Fire Protection, as also Fire Fighting is given in Appendix 5.

(c) Protection from Cattle.

(1) Incidence of Grazing.

38. An area of 285,543 acres, or 70.50 per cent of the forest area was allowed to be grazed over during the year.

39. Owing to the continuation of the drought, emergency grazing permits were issued again this year.

40. With the emergency grazing irreparable damage was caused, especially to the thriving plantations, such as Athalassa with an area of 1,495.60 and Salamis with 502.84 acres, in order to give only two concrete examples. Not only the sheep and goats were

browsing off the leaves, as high as they could stretch or climb, but more especially the shepherds broke down the branches (up to 2 inches in diameter) of the acacia in order to put still more leaves within reach of their semi-wild animals.

41. Although an additional area of 5,388 acres was made available for grazing and very large numbers of emergency grazing permits were issued in valuable main and hill forests and plantations as well, many goatherds began to realise that forest and plantation grazing is only a poor palliative for proper Animal Husbandry. Apparently very large numbers of kids and goats died, owing to the effects of the drought and frost, especially in the Paphos Forest, in the winters of 1931, 1932 and 1933.

42. Full details of the incidence of grazing during the year are given in Appendix 6.

43. Every effort was made to induce goatherds to leave the main mountainous forest areas for those of lesser value. But in view of the fact, that the goatherds are attached to certain villages and lands, actually IN or NEAR these main forests, economically, it is almost impossible for them to make this change. It will probably only come with an improvement and intensification in their system of Animal Husbandry.

44. Fortunately the number of tethered goats of better-breed, kept in the island, has increased to over 9,000, against 2,000 in 1932, and none or very few twelve years ago.

45. The nomad goat grazing system still in use in the island, has been recognized throughout history, as the lowest form of Animal Husbandry. It has always been the aim to make the goatherds in Cyprus understand, that this haphazard wasteful method, considering the very great damage done continuously to the forests, and especially to all kinds of trees outside as well, has to be changed to a far higher better paying system.

46. Of course it is really very hard to alter this practice of nomad grazing, which has been continued for milleniums. However, despite all difficulties, the great increase in the number of better-breed goats, indicates that the continuous teaching of the people by the Agricultural and the constant propaganda carried out by the Forest, Departments, has been increasingly successful.

47. It appears that many are now beginning to understand, that intensive methods with tethered goats are needed, if the fruit and other garden industries are to thrive.

48. At long last, to a great extent, the real hindrance to the

greater faster progress and prosperity of the island is being recognised by an increasing number of people. That is to say, it is beginning to be understood, that the real basic problem before the country is to improve and change the present method of nomad sheep and especially goat grazing, into a proper most intensive system of Animal Husbandry.

(ii) **Alternative modes of living for goatherds.**

49. The following is the result of the negotiations with goatherds, who exchanged their grazing permits with pine trees or land during the year.

Village.	No. of permits.	No. of goats disposed of.	feet, girth of pine- trees given in exchange.	Land given in sxchange	
				do- nums.	ev- leks.
Paphos Division					
Paphos Forest.					
Ayios Merkurios	2	23	69	—	—
Argaka	4	129	387	—	—
Pakhy Ammos	4	115	345	—	—
Vrodishia	2	46	138	—	—
Kambos	1	42	126	—	—
Livadhi	6	190	570	—	—
Pomos	2	18	54	—	—
Karpass Division.					
Koma tou Yialou	1	16	—	1	2
Total.	22	579	1,689—199 trees, 8 1½ feet average girth.	1	2

δ) **Leasing of Forest Land.**

50. The total area leased during the year was 1,389 acres, and the sum of £208.7.0 cp. was collected.

51. Many peasants refused to accept the new form of leasing for 5 years and then sowing the area with forest tree seeds. Many apparently only wished to clear off the shrubs and few trees found on the land leased, in order to earn some money or gain the freehold of the land, instead of reafforesting it properly at the end of the five-year period and then leasing a different similar sized area.

e) **Protection of Private Properties, comprising Forests, Woodlands and Plantations, under Forest Law No. 12, of 1882**

52. Thirteen estates, comprising 10,452 acres of forests, woodlands and plantations were placed under the protection, control

and management of the Government (Forest Department). The amount of protection fees collected during the year was £44.6.2 cp.

SHAPTER III. SILVICULTURE

1. Natural Reproduction.

53. The Assistant Conservators of Forests reported, that during the year, owing to the very adverse climatic conditions, the prolonged drought and the excessive grazing (ordinary and emergency continued), there was practically no natural reproduction or none survived.

54. The Assistant Conservator of Forests, Paphos Forest Division, reports in addition, that «in the pine, however, there were few deaths in established regeneration, which on the whole may be said to have survived the drought extremely well. Young alder in the pole stage in the river beds suffered badly, the majority dying. It is hoped that the roots have survived the death of the stem».

55. In Nicosia Division, the Assistant Conservator of Forests stated that, generally speaking, the year was very poor with regard to natural reproduction, but it was noticed in the following places:-

Ahna and Xylotymbo plantations, of pine, acacia and juniper,
Vromonera and Mutti tou Kioniou in Machera forest, of pine,
Kyparissovounos in Lapithos forest, of pine,
Athalassa plantation, of eucalyptus,
Leper Farm plantation, of pine.

56. In Karpass Division the Assistant Conservator of Forests reported, that some natural reproduction of *pinus halepensis* and cypress had been noticed in Dennarka, Kantara, locality «Hatoupas», Alonia, Koronia, Vournia, Kakovathra, Youti, Stephanos and Eftacomi forests.

2. Artificial Afforestation.

(a) Plantations.

57. An area of 30 ½ acres was planted up with 5,664 forest tree seedlings, at an average cost for planting only, of £ 0.5.1 cp. per acre, as against 44 acres in 1932. Of these six acres were planted by prisoners, and they dug the holes for the most of the rest of the area.

58. The areas planted are the following:- Mylous, Athalassa, Kathari, Government House, Saint Lazaros, Laxia tou Spyrou, plan-

tations, at Xeropighi in Paphos forest and round Koronia in Kantara forest.

59. The filling of blanks was undertaken over an area of 110 acres, of which 50 were done by prisoners, against 186 acres in 1932. The areas so treated are the following Athalassa, Kathari, Government House, Nicosia Moat and Ayios Dometios, plantations in Stavros valley in Paphos forest, round Kapoura in Adelphi forest, round Platani and near the Troodos Station in Troodos forest, in Salamis and Fresh Water Lake plantations in Akrades, Lymnares, Vallia and round Koronia in Kantara forests.

60. From the report of the Evkaf Department the following is noted with gratitude:-

«A further area has been planted at the Hala Sultan Tekyé at Larnaca and another sown with forest trees seeds, after tractor ploughing. Most of the blanks in the previously planted area were filled and the older trees properly mulched and cultivated. The whole plantation is now in a very flourishing condition under the charge of the Evkaf Plantation Guard and the kind supervision of Dr. A. H. Unwin, O.B.E., Conservator of Forests. Despite the drought, the older plantation has developed very well indeed and is now a distinct and growing amenity to the surroundings of this celebrated Shrine».

(b) The Sowing of Bare Areas.

(i) By Tractor.

61. During the year, owing to the shortage of funds, only 42 acres were sown at Athalassa plantation, compared to 83 acres in 1932. The sowing includes previous ploughing and in some cases harrowing. The total average cost of all operations worked out at £0.15.5 cp. per acre.

(ii) By Hand.

62. An area of 757 acres was sown by hand, with 485 okes of various species of seeds. The areas sown are the following :- Mylous, Ay. Dometios, Government House, Sraff Huts, Athalassa, Castro, Lakkovounara, Ayia Paraskevi, near Greek Cemetery, Petra Stiti, and Laxia tou Spyrou, plantations, Diorios, Kardaldagh, Troodos, Kantara, and Karpass forests.

63. Repair sowing was also carried out over an area of 383 acres, with 3,096 okes of seeds. All the work was done by the Staff and prisoners, without any cost to Government. The areas treated are

the following :- Ayios Dometios, Government House, Staff Huts, Athalassa, Kastro, Lakkovounara, Ayia Paraskevi, near Greek Cemetery, Petra Stiti, Laxia tou Spyrou and Fresh Water Lake, plantations, and Paphos forest.

(c) Roadside Planting

64. Only the filling of blanks was undertaken on 19 miles of roadsides, (including both sides) by the staff and prisoners, and where 1,878 forest tree seedlings were planted.

65. 102 new tree guards were made to replace very badly broken ones and 6,277 old ones were repaired at a total cost of £ 15.

(d) The Arbor Day.

66. The «Arbor Day» of the Cyprus Forestry Association was celebrated at Kastro plantation, Nicosia District, on the 2nd December, 1933. 50 members and 17 guests of the Association attended it. 450 seedlings were issued by the forest department and planted by all, who took part in this celebration.

67. Owing to the drought, there was no celebration of an «Arbor Day» in connection with the primary schools.

3. The Raising and Disposal of Seedlings.

68. During the year owing to the need for further economy, 9 nurseries were discontinued. Thus only 9 actually remained open at the end of 1933.

69. In Appendix 7 full particulars are given of the raising and disposal of seedlings, during the year.

4. The Improvement to Water Supplies.

(a) The Sinking of Wells etc.

70. During the year, owing to the drought, 8 new wells were sunk and others deepened. One well in Paphos forest was destroyed and 6 others at Fresh Water Lake plantation dried out. Also one water tank was built at Moumouros Sawmill yard, in Paphos forest.

71. The total number of wells and tanks possessed by the Forest Department by the end of the year was 142 and 58, respectively.

(b) Power for pumping water.

72. 6 new hand pumps were purchased and erected during the year at a cost of £ 25.1.4 cp. No other additions were made to the power for pumping.

73. The total number of hand pumps and engines for pumping water by the end of the year was 28 and 2, respectively.

(c) The Purchase and Upkeep of Airmotors.

74. Only the sum of £ 23 was spent for the repairs and upkeep of the existing airmotors.

75. One airmotor was removed from Lymnares to Varoshia and 6 others were sold (being very old), for £ 61.9.0 cp. Thus the total number of airmotors possessed by the department by the end of the year was 25, instead of 31 in 1932.

(d) Springs and Water Supplies.

76. Owing to the extreme drought 45 springs (additional to those drying up in 1932) dried up during the year and of most the flow was very considerably reduced.

77. In Appendix 8 a complete account is given of the springs in the forests and plantations.

78. 25 springs and water supplies continued to be leased to villagers, mostly at a rental of one shilling per year. Three others, the biggest, including the «Kaphisides» water supply for Lefka village, were used free of charge as before.

79. The value of water supplies from forests and plantations used by the public is estimated at over £ 29,200 annually. Without these forest springs there is no doubt, the country would have been in a desperate economic position last year.

5. Disposal of Wild Carob and Olive-trees.

80. During the year 489 wild olive-trees were sold for £8.1.3cp. against 712 wild olive-, 52 grafted olive- and 40 wild carob-, trees, for £14.19.0 cp. in 1932. From 1901 to 31.12.33, the total thus far provided was 865,497 (issued free of charge up to November, 1931).

6. Seed Collection.

81. A quantity of nearly 7,474 lbs or 2,691 okes of seeds was collected at an average cost of 5 ½ cp. per oke, or nearly 2 ⅔ d. per lb. The considerable crop (2,000 okes) of Stone pine seed is included, the local market for which is improving. 55 okes of Stone pine seed have been cracked and 10 ¼ okes of pine kernels obtained, part of which were sold.

82. The amount realized from sales of seeds was £ 45.18.2 cp. as against £ 31.0.7 cp. in 1932.

83. Again orders were received from abroad for Cyprus tree and other seeds. Moreover 33 species of exotic seeds were received in exchange for Cyprus seeds and sent out for testing in the nurseries or forests.

7. The Cost of Silvicultural Work.

84. The cost of silvicultural work is given in Appendix 9. The average cost of planting only per acre was £ 0.5.1 cp. as against £1.2.0 cp. in 1932. But in 1933 practically all holes for planting were opened by prisoners, whilst in 1932 paid labour was used for making holes, as well as planting.

85. The cost of seedlings at just under 15 paras each, (usually planted 6'X6' or 1,200 seedlings per acre) works out at £2.10.0 cp. per acre.

86. With a further reduction of funds to £300, allowed to the department under this subhead, less than the most essential maintenance was carried out.

8. Tending of the Growing Stock.

87. Tending operations, including pruning, were carried out chiefly in the main forests and largest plantations, so far as funds permitted. 283,173 trees and 400 yards of dodonea hedge were pruned at an approximate cost of £1,061, as against 163,255 trees at a cost of £850 in the previous year. Owing to its highly technical and difficult nature, no contracts have yet been offered or accepted for such work.

CHAPTER IV. EXPLOITATION

1. System of Management.

(a) Major Forest Produce.

88. According to the prescriptions of the working plan, in Troodos forest, the system consisted of group selection fellings and selective cutting. This practice has been and was also followed in other forests, as far as possible.

89. Burnt material salvaged from the various fires, which occurred before and during the year, was exploited, so far as the funds at the disposal of the Department permitted, or sales on a satisfactory basis could be affected.

(b) Minor Forest Produce.

90. Under the contract, which was entered into in 1930, 791 $\frac{1}{2}$ oke of origanum oil were distilled during the year, compared to 542 $\frac{1}{2}$ in 1932. The contractor paid by way of royalty the sum of over £38, compared to over £21 in 1932.

91. All other minor forest produce, such as pine cones, cypress cones, pitch, tar fruit and vegetables, hay and grass, earth and stones, sumac leaves, snow, bracken, thyme, cistus, pallura, carob and olive fruit, reeds and fennels were sold in the most cases in increasing quantities.

2. Agency of Exploitation.

(a) Departmental Agency.

(i) Conversion of timber at Sawmills and forests.

92. Owing to insufficiency of funds, the 7 Sawmills were not working full-time during the year. 2,607 trees were felled, which yielded 8,773 logs, against 983 and 3,272 respectively in 1932. Out of these logs, 73,540 cubic feet of timber were extracted compared to 22,101 in 1932.

93. The rate per cubic foot paid to the contractors at Sawmills averaged 3 cp. per cubic foot compared to 5 cp. paid in 1932. The lower rate is due to excessive almost cutthroat competition. Private enterprise though is loath and lacks the capital to buy on the stump and undertake all further operations.

94. However, one of the Sawmills at Limniti was again leased to a contractor for 12/4 $\frac{1}{2}$ cp. for each working day; the mechanic was paid by the department. Ayios Theodoros and Paleomylos were dismantled and the machinery used for Moumourous and replacements at the other Sawmills.

95. The amount of hewn timber cut in the forests was 54,785 cubic feet, compared with 41,869 in the previous year.

(ii) Salvage of burnt trees.

96. 31 contracts were closed during the year for the working of burnt trees, outside the Sawmill areas, compared with 19 in 1932. Most of the contracts were on payment and only 4 on the share basis.

(iii) Thinning.

97. Light thinnings were made chiefly in Paphos and Troodos forests and in a few plantations. Much more could be done if funds per-

mitted, as some of these operations are not remunerative and therefore private persons will not bid for the trees.

(iv) **Extraction of firewood and charcoal.**

98. The Department extracted 537,832 cubic feet of fuel from the state forests, against 259,480 in the previous year. Also 31,889 cubic feet of firewood were converted into 159 tons and 159 okes of charcoal, against 25,573 cubic feet converted into 127 tons and 692 okes of charcoal in the previous year.

(b) **Purchases, Exchanges, Permits and Privileges.**

(i) **Purchases and exchanges.**

99. During the year 4,645 trees were sold standing, or given in exchange for land and mostly for making of forest roads and fire-traces. Most of these trees were disposed of in Paphos forest. In the previous year the number was 2,913 in addition to many small ones. Full particulars are given in Appendix 10.

(ii) **Fuel permits.**

100. This year 1,273 permits were issued, compared with 1,985 in the previous year. The sum of £63.13.0 cp. for fuel permits was collected this year, against £99.13.0 cp. in the year before.

101. Less fuel permits were issued this year, owing to the fact that many hundreds of loads of fuel were sold to villagers.

(iii) **By holders of rights and privileges.**

102. It is estimated that 179,505 loads or 718,020 cubic feet of fuel were removed from the forests by holders of rights and privileges, compared to 245,755 loads or 983,020 cubic feet in the previous year.

(iv) **By sales at Timber Stores.**

103. Three Timber Stores (Evrychou, Ayios Theodoros and Nicosia) were closed and one (at Lefkonico) was reopened. The number of stores open on 31st December, 1933, was 35, compared with 37 in the previous year.

104. During the year 81,759 cubic feet of timber were sold at the Timber Stores, compared to 34,200 in 1932. From the sales at the Timber Stores the sum of £8,382.7.2 cp. has been collected, against £6,398.2.0 cp. in the previous year, that is to say 47,559 cubic feet more were sold and £1,984.5.2 cp. more were collected. In proportion to the produce sold, less money was collected, owing to the prices for timber and fuel being further reduced by 10 per cent and 12 per cent respectively in most places and stores.

105. Also with a view to increasing the revenue, 45 sales by auction took place.

106. Mr. Jacobs, the Accountant, has very kindly and ably prepared Appendix 11, giving a clear account of the trading operations, as distinct from maintenance and improvement of the forests.

(c) Utilization of Private Forests Woodlands and Plantations.

107. During the year 79,373 cubic feet of timber and 61,720 cubic feet of fuel were extracted from trees felled in private forests, woodlands and plantations, as against 45,511 and 60,997 cubic feet respectively in 1932.

108. 951 tons of charcoal were manufactured during the year, or 190,200 cubic feet against 1,642 tons and 432 okes or 328,508 cubic feet in 1932.

109. Full particulars are given in Appendix 12.

(d) The Total Utilization of Timber and Fuel from all State Forests and Plantations.

110. From the state forests and plantations 353,206 cubic feet of timber and 1,384,592 cubic feet of fuel were extracted, compared to 281,442 cubic feet of timber and 1,373,120 cubic feet of fuel extracted in the previous year.

111. During the year, 366,801 cubic feet of timber and 549,004 cubic feet of fuel were disposed of by the forest department, compared to 270,718 and 211,235 respectively in 1932, i.e. 96,083 cubic feet of timber and 337,769 cubic feet of fuel more in 1933.

112. Full particulars are given in Appendix 12.

(e) The Total Utilization and Consumption of Timber and Fuel in the Island.

113. In addition to the timber and fuel extracted locally and to the stocks available from the previous year, 588,744 cubic feet of timber were imported into the Island, against 568,996 cubic feet in the previous year.

114. During the year, it is estimated that 1,059,711 cubic feet of timber and 1,939,484 cubic feet of fuel were consumed, or 2.95 cubic feet of timber and 5.44 cubic feet of fuel per head of population, against 2.39 cubic feet of timber and 5.21 cubic feet of fuel per head of population in the previous year. The population

was estimated by Health Department at 356,059 persons on 30.6.1933, against 352,340 on 30.6.1932.

115. Full details are given in Appendix 13.

CHAPTER V. FINANCIAL RESULTS.

116. It must not be forgotten, that since the financial slump in 1931, over 2 years drought, very low prices of all produce and the prevailing very poor economic conditions, the result of the collection of revenue, especially under the supervision of Assistant Conservators of Forests, could not be commensurate with their activities. However, despite all adverse factors, the revenue has been increased by £2,226 compared to 1932. The timber and fuel market did not really improve until August.

117. Appendices 9 and 11 speak for themselves, the first showing the cost of maintaining, protecting and managing forestal works, and the second one showing the cost of exploiting forests and plantations, and of the disposal of produce and the revenue derived therefrom.

118. Appendix 14 shows the details of the revenue collected during the year.

119. Appendix 15 shows the details of the expenditure incurred during the year.

120. A classification under the main headings, divided between capital, administration and for operations of the Department's Vote is given in Appendix 16.

121. In Appendix 17 an approximate division of expenditure from Vote 20, among the various channels of payments is given.

122. In Appendix 18 a complete statement is given, showing the amount invested since January, 1931, amount of stock plant and buildings belonging to the department at that date and the tangible and intangible assets represented in those amounts.

123. Appendix 19 gives the value of services rendered, privileges, forest grants of fuel and timber, or sales at reduced rates, calculated at the market rates etc. From this Appendix it can be seen, that in addition to the revenue returned to the Treasury in actual cash, the forests yield over £68,000 worth of produce or usages obtained by the people, i. e. about 5 times more than the difference between the Annual expenditure and revenue.

124. Thus if the value of these privileges and usages is also added to the cash revenue, the Forest Department was more than self-supporting in 1933, quite apart from the constant increase of the growing stock and the indirect climatic benefits.

CHAPTER VI. FORESTRY EDUCATION AND PUBLICITY.

1) Permanent Forest Products Exhibition & Museum.

125. More people visited the hundreds of wooden articles, and furniture, both in the sheds at the Timber Store by the Railway Station, and also in the room of the Cyprus Forestry Association, in Victoria Road, Nicosia.

126. At Troodos many hundreds of wooden articles were sold. Visitors and others purchased and took souvenirs away to Palestine, Iraq, Egypt and other countries. Show cases were put up in various hotels and articles were exported to Africa, besides England and other countries. The proceeds of sales realized £ 550, compared to £ 367 in 1932.

127. 34 carpenters, with 64 apprentices from various parts of the island, have been employed during the year by the forest department in making wooden articles for sale, from small pieces of wood, which otherwise would be burnt. During the last few years an increasing number have been employed, the idea having been to teach, as many as possible, the best use of all wood. Although a certain number of carpenters are copying designs made by the forest department, yet none of them has succeeded in reaching a sufficiently high standard needed for the export of wooden articles, unless directly working on contract or verbal agreement, more or less under the supervision of the forest department. However, judging by the remarks of visitors, the standard of workmanship has been very much raised in recent years.

2) Experiments and Research.

128. During the year, owing to the lack of funds, research work and experiments were made only on a limited scale under minor forest produce, in connection with the viability of seeds and in cracking Stone pine seeds by hand.

3) Cyprus Forestry Association.

129. The Cyprus Forestry Association brought out Nos 3 and 4 of the «Forest Treasures of Cyprus» (in three languages, English, Turkish and Greek), the Journal of the Association of which the writer is editor.

130. The Cyprus Forestry Association was again supported by a grant of £50 from Government (forest department).

131. During the year, on the 26th August, an excursion to Loumadha Nursery, in the Troodos forest was arranged, and another

one on the 28th October, in Polemidhia, Sand Drift and Swamp Limassol plantations and in Akrotiri Forest. The Arbor Day was celebrated by the Association on the 2nd December, in Kastro plantation, Nicosia District.

132. By the end of the year over 400 members were enrolled against 300 by the same time in the previous one.

CHAPTER VII. ADMINISTRATION.

1) Forest Divisions.

133. During the whole year the 4 forest divisions of Nicosia, Troodos, Paphos, and Karpass, each under the charge of an Assistant Conservator of Forests, were manned.

134. With the completion and carrying out of the Working Plan for Troodos and the making of one for Adelphi forests, the need for reduction of the size of the Troodos-Adelphi-Limassol Division is still more felt.

135. From over twelve years experience in dealing with the local forests, it is clear that the manifold works and operations required, can only be undertaken properly and supervised by well trained Assistant Conservators of Forests.

2) General.

136. During the year, except from the 30th October to 9th November, 1933, the writer was in charge of the department.

137. Again this year, Mr. Reilly acted as Conservator of Forests, during my absence on duty leave in Palestine, in the period stated above. Since the 6th December, to the end of the year, instead of doing forestry work, he has been acting as Commissioner, Famagusta.

138. For reasons of economy no fresh students were sent to England, to the Forest Apprentices' School in the Forest of Dean.

139. The Cypriot Mr. Th. A. Couppis, who was sent to England in 1929, having taken his B. A. degree (Forestry at Oxford), is now going through the Post-Graduate course at the Imperial Forestry Institute, Oxford, (at Government expense) with a view to becoming an Assistant Conservator of Forests.

140. The Inspector of Machinery and Plant was charged with making various false statements, but the case did not come up for trial before the year closed.

141. During the year, one Plantation Guard and two Foot Forest Guards retired on pension. These posts were abolished.

142. The Clerical Staff was reduced by 3 men during the year.

143. The total reduction of staff during the year was 65 men.

144. Since January 1st, 1931, the forest staff has been reduced by 112 men, on the permanent or temporary establishment. Meanwhile with the drought, the spread of lawless elements, and the consequent theft of forest produce, the forests have had less, whilst needing more protection.

145. There are less permanent staff employed by 9 and less temporary by 14 men than 10 years ago.

146. The Forest Policy, as finally settled by the Secretary of State for the Colonies, on the lines of various proposals made by Professor Troup in 1929, continued to be carried out as far as possible, especially the relinquishment of further areas for grazing leasing land etc.

147. Although this and the previous Cyprus Forest Reports have been largely statistical, it must be borne in mind, that in a small country, everything is known much more closely. Therefore, many more and detailed statistics are needed here than in a large country, where economic conditions are not so far advanced or methods of working not so intensified. Also instructions have been given from time to time, that Annual Reports must be as brief as possible, so that figures are shorter to write than words.

148. Owing to the economic crisis, the Forest Departments' Expenditure has been reduced from £40,659 in 1930 to £28,461 in 1933. During the same period of time, the ratio of the Forest to the Island Expenditure has been reduced from 5.08 per cent in 1930 to 4.00 per cent in 1933. Incidentally this ratio of expenditure is the lowest during the last thirteen years. The comparatively satisfactory results of the year are due to all the staff, but especially to the Assistant Conservators of Forests, most strenuously working, doing their utmost, despite drastic economies, in a further bad drought and extremely high fire-hazard year. Therefore, I beg to tender to all of them my most grateful and heartfelt thanks.

A. H. UNWIN
Conservator of Forests.

25th April, 1934.

APPENDIX I.

Statement showing cost of Demarcation, Delimitation, Forest Survey and Working Plans.

A. Cost of Survey and Working Plans.

1932		1933	
£ s. cp.	No.	No.	£ s. cp.
2.17.0	Purchase of maps.	- - -	
519. 5.0	Preparation of maps for staff.	65. 0.0	
}	Preparation of maps for Working Plans	121. 0.0	
	Preparation of plans for leases.	22. 7.4 ½	
4. 0.4	Instruments and drawing materials.	3.18.4	
21. 1.0	Examination of land claims.	22. 6.4 ½	
}	Arranging of leases.	176. 0.0	
	Examination of encroachments	171. 0.0	
168. 0.0	Salaries and expenses of Survey Staff.	- - -	
259. 7.5	Preparation of Working Plans.	306.16.7	
<hr/> £ 974.11.0 cp.		<hr/> £ 888. 9.2 cp.	
	Total.		

B. Maintenance of Delimitation Works.

- - -	14. Cairns built (by staff and concessionaires)	95. - - -
- - -	220. Cairns repaired (by staff)	40. - - -
- - -	10. Fencing repaired	- - -
	miles. (by staff), miles. 11 & 150 yds.	
- - -	554 yds. Trenches dug (by staff and squatters).	535 yds. - - -
<hr/> £ 974.11.0 cp.		<hr/> £ 888. 9.2 cp.
	Total spent on subhead «Delimitation, Forest Survey» and Working Plans».	

APPENDIX 2.

Roads etc. Built or Repaired in Forests.

Description	Mileage on 1.1.1933.	Additions. No. of miles in 1933.	Total miles on 31.12.1933.	Capital cost including cost of additions £
P. W. D. Roads	58.75	— —	58.75	— —
Village Roads	94.75	1.60	96.35	— —
Forest Roads	137.20	8.80 *	146.00	15,500 **
Forest Paths	508.00	7.60	515.60	4,796
Fire Traces	266.25	14.50	280.75	3,108***
Compartment lines	79.25	11.00	90.25	3,411
Total	1,144.20	43.50	1,187.70	26,815

Cost of Repairs.

	£	s. cp.
Cost of repairs to Village Roads outside to forests	78.14.6 ^x	
Cost of repairs to Forest Roads in forests	414.	8.0
Cost of repairs to Foot and Bridle Paths in forests	29.11.1	
Cost of clearing old Fire Traces in forests	72.	4.2
Cost of repairs to Bridges in forests	42.	9.7
Total	£ 637.	7.7 cp.

Cost of Bridges.

8 new bridges	£ 81.13.7 cp.
13 old bridges repaired	£ 42. 9.7 cp.

* 1 mile and 559 yards of the Fleyia Forest road made from Relief Funds at a cost of £175 plus £20.5.5 cp., spent from Forest Funds.

** Plus £247 being the value of about 1,640 trees given in exchange for road making of nearly 2 miles in length.

*** Plus £155, being the value of 1,034 trees given in exchange for making nearly 4 miles of fire traces,

X Done from Relief Funds.

APPENDIX 3.

Return of Forest Offences.

	1932	1933
Cases taken to Court	5,272 *	5,920
Cases compounded	3,527 *	2,840
Cases cancelled	275	117
Cases undetected	75	42
	<u>9,149</u>	<u>8,919</u>
1. Damage to Forest by fire	131	55
2. Unauthorized possession of Forest Produce	4,519	4,482
3. Unauthorized Fellings	1,228	1,368
4. Unauthorized Grazing	2,740	2,602
5. Land Encroachments	237	148
6. Miscellaneous	294 *	264
Total	<u>9,149</u>	<u>8,919</u>

Cases and Persons dealt with in Magisterial Courts, for Offences against Forest Laws.

	1932		1933	
	number of		number of	
	cases.	persons.	cases.	persons.
Discharged	701	788	608	703
Convicted summarily	4,571	6,486	5,312	7,068
Total	5,272	7,274	5,920	7,771

* Correct figure in 1932.

APPENDIX 4.

Return showing the rainfall in the Forests for the year 1933, with comparative figures for 1932.

Name of Station	Height above sea - level. feet.	1932. inches.	1933. inches.
Nicosia Forest Division			
Halevga	2,020	13.05	11.96
Ahna	170	10.96	6.95
Dikellia	80	9.68	7.21
Korno	1,200	15.47	5.69
Troodos Forest Division			
Troodos	5,650	36.68	27.90
Kapoura	1,870	3.79	10.35
* Platani	3,680		10.27
Paphos Forest Division			
Ayios Theodoros			
Sawmill	2,030	19.92	13.68
Ayia Sawmill	2,000	21.39	17.20
Stavros Psokas	2,590	24.50	21.60
Karpass Forest Division			
Salamis	30	17.72	6.87
Koronia	1,800	18.14	17.12
Rizokarpass	500	7.23	19.47
Average		16.54	13.83

* Started in July, 1933. Rain actually fell only after 1.10.1933.

APPENDIX 5.

Statement showing cost of Fighting Fires and Building and Maintenance of Protective Works and Measures (other than those included in Appendix 2).

1. Fire Protective Measures.		
1932		1933
	Works of a Capital Nature.	
£ s. cp.		£ s. cp.
197.15.5	Installation of Telephone lines and purchase of reserve stock of materials	36.15.8
—	Purchase of Tools	7.18.1
<u>£197.15.5 cp.</u>		<u>£44.14.0 cp.</u>
	Maintenance.	
304.10.7	Maintenance and Operation of Telephones	335. 4.2
450.12.6	Wages of Fire Guards and Runners	327. 5.1
<u>£755. 3.4 cp.</u>		<u>£ 662. 9.3 cp.</u>
	2. Fire Fighting.	
<u>£750.14.7 cp.</u>	Cost of Fighting Fires.	<u>£ 169.15.6 cp.</u>
	3. Forest Protection.	
—	Protection against pests	—
344.11.3	Special Patrols.	330. 1.2
<u>£344.11.3 cp.</u>		<u>£ 330. 1.2 cp.</u>

APPENDIX 6. Incidence of Grazing.

A. Permits Issued.

	No. of Permits	No. OF ANIMALS			
		Goats	Sheep	Other animals	Total
(i) Usual Permits					
Free	497	19,939	6,142	569	26,650
On payment	5	166	100	—	266
Total U. Permits	502	20,105	6,242	569	26,916
(ii) Drought Emergen- cy Permits.					
Free	524	14,373	18,129	51	32,553
On payment	63	1,909	166	13	2,088
* In exchange	3	148	—	—	148
Total E. Permits	590	16,430	18,295	64	34,789
Grand total	1,092	36,535	24,537	633	61,705

Fees collected: £25.17.2 cp.

B. Grazing Statistics.

Area grazed over (legally) in acres	282,742
Area closed to grazing in acres	119,495 **
Percentage of area grazed over compared with the whole forest area	70.29 %
Percentage of area closed to grazing com- pared with the whole forest area	29.71 %
Incidence, number of acres per animal	4.63
Incidence, number of donums per animal	13.89
Total number of goats in the Island, counted in March, 1933	213,312
Number of goats allowed to graze:-	
(a) under usual permits	20,105
(b) under emergency permits	<u>16,430</u>
	36,535
Percentage of goats allowed to graze compared with the number of exi- sting goats:-	
(a) under usual permits	9.43 %
(b) under emergency permits	<u>7.69 %</u>
	17.12 %
Total number of sheep in the Island counted in March, 1933	292,175
Number of sheep allowed to graze:-	
(a) under usual permits	6,242
(b) under emergency permits	<u>18,295</u>
	24,537
Percentage of sheep allowed to graze compared with the number of existing sheep;	
(a) under usual permits	2.13 %
(b) under emergency permits	<u>6.26 %</u>
	8.39 %

* In exchange for 4 free working days and 60 yards of path, 5 feet wide.

** 57,343 acres of this area are grazed over at times illicitly.

APPENDIX 7.

Statement Showing Number of Nurseries and Disposal of Tree Seedlings.

1. The Position of Nurseries :

	No. on 1.1.1933	Disconti- nued du- ring 1933.	No. on 31.12.1933.
Number of Nurseries in Forests or Plantations	16	8	8
Experimental Nursery in Nicosia	1	—	1
Number of Nurseries near Villages	1	1	—
Total	18	9	9

2. The Raising and Disposal of Seedlings :

Estimated and counted number of seed- lings in stock on 1st January, 1933	1,017,471	
Number of seedlings raised during the year	20,182	1,037,653
Number of seedlings set out in Forests and Plantations	82,102	
Number of seedlings set out on Roadsides (replacements <u>only</u>)	1,878	
Estimated and counted number of seed- lings overold, destroyed by insect or fun- goid pests, goats or other causes, main- ly by drought, or wrong counting in pre- vious year	208,300	292,280

Free Issues :

Number of seedlings to Government Departments	170	
Number of seedlings for the Celebration of the Arbor Day of the Cyprus Forestry Association	450	620

On Payment :

Number of seedlings sold to private indi- viduals for planting in their properties	12,647
Estimated and counted in stock on 31st December, 1933	732,106

Sales realised £69.17.0 cp.

APPENDIX 8.

Springs rising in State Forests.

Original number of springs in 1930:-	398
Original number of springs in 1931 :-	396
Original number of springs in 1932:-	321
Number of springs which dried up in the year 1933 :-	137
Percentage :-	34.67%
Number of springs with reduced flow in the year 1933 :-	153
Percentage :	38.44%
Number of springs flowing normally in the year 1933:-	31
Percentage :-	7.79%
Number of springs still flowing in the year 1933:-	184
Percentage :-	46.23%

APPENDIX 9.

Statement showing cost of maintaining, protecting and managing forestal works, less revenue applicable thereto, for the year ending 31st December, 1933.

1932.		1933
£ s. cp.		£ s. cp.
	Management and Executive Administration.	
545. 5.3	Maintenance of Stations and Equipment	139.19.6
752. 3.1	Maintenance of Roads and Paths	685. 9.2
304.10.7	Maintenance of Telephones	335. 4.2
7. 1.4	Maintenance of Boundaries	10. 2.2
3,177. 0.0	Salaries of Temporary Staff	1,110.15.2
* —	Travelling and Allowances of Executive Staff	669.10.0
271.17.8	General Expenditure	237. 6.2
	Maintenance and Preservation.	
97. 5.6	Maintenance of Plantations	48. 5.4
178. 9.1	Maintenance of Nurseries	175.15.8
148.13.5	Water Supplies	95. 4.6
86.14.2	Road-side trees	29.15.6
—	Amenities, Government House Plantation etc.	80.18.4
	Protection.	
450.12.6	Fire Guards	327. 5.1
344.11.3	Patrols	330. 1.2
750.14.7	Fire Fighting	169.15.6
<u>£7,114.19.8cp</u>	Total Expenditure	<u>£4,445. 8.8cp</u>
	LESS :	
818. 9.7	a) Contributions for Roads etc. by Working Account	775. 0.0
791.13.3	b) Revenue from sale of Permits and Sundries	494. 6.1
591. 0.4	c) Compounded Offences	374. 7.4
685. 1.1	d) Compensations	889. 2.1
50.13.8	e) Protection fees	44.16.2
<u>£2,936.18.5cp</u>		<u>£2,577.11.8cp</u>
4,178. 1.3	Nett Expenditure	1,867.17.0
1,478. 0.0	Depreciation charge	1,348. 0.0
<u>£ 5,656. 1.3cp</u>	Cost of Maintenance	<u>£3,215.17.0cp</u>

* Previously included in the Administration Account.

APPENDIX 10.

Disposal of Standing Trees.

(1) Sale:

Species of trees.	Number of trees.	
	1932.	1933.
Pine trees	1,855	1,100
Golden Oak	442	206
Arbutus	530	488
Other species	—	65
Total	2,827	1,859 *

Average sale price per cubic foot:- $2 \frac{35}{40}$ cp.

Estimated quantity of timber extracted :-

Timber	46,298	cubic feet,
Fuel	18,429	„ „
Total	<u>64,727</u>	„ „

(2) Given in Exchange for Land :

112 trees containing about 14,585 cubic feet of timber and 2,200 cubic feet of fuel.

Estimated value of trees	£280
Area of land given in exchange	139.50 donums.
Estimated value of forest land	£312

* Plus about 2,674 trees valued at £402 given in exchange for making of nearly 2 miles of road and nearly 4 in length of fire traces.

APPENDIX 11.

Statement showing cost of Exploiting Forests and Plantations and of the Disposal of Produce and the Revenue derived therefrom in the year 1933.

Estimated Expenditure represented by:			1932.	1933.
1932.		1933.	£	£ s. cp.
£	Stocks brought forward.	£ s.cp.		
3,860	{ Timber, Fuel etc.,	3,703. 0.0	8,313	{ Sales of cut timber and fuel
	{ Furniture	470. 0.0		{ Sales of standing timber } 10,900. 9.4
	Expenses variable with output.			
778	Saw Mills, Working and Erection	1,519. 3.2	367	Sales of furniture
234	Saw Mills, Supervision	316.16.3	260	Cutting and Delivery charges
2,394	Cutting, Pruning and Timber Stores			
	Supplies	2,386. 8.3		Estimated Expenses represented
2,857	Extraction and Transport from Forests	2,275.11.6		by stocks carried forward *
—	Supervision of Felling	130.10.0	4,101	Timber, Fuel etc.,
49	Collection of Minor Forest Produce	43.19.4	72	Furniture
	Expenses variable with Sales :			
472	Timber Store Expenses	537.13.3		
404	Salaries of Storekeepers	291. 6.4		
203	Commission and Percentages	237. 8.0		
327	Delivery expenses	339.14.4		
347	Manufacture of Furniture. *	828.14.1		
818	Contribution for Maintenance of Roads, Patrols and Plantations	775. 0.0		
370	Surplus of Sales etc., over direct Expenditure	2,072,10.1		
<u>£13,113</u>		<u>£15,927,15.4</u>	<u>£13,113</u>	<u>£15,927.15.4</u>

* After allowing reserve for depreciation or non-sale.

APPENDIX 12

Outturn of Major Forest Produce in State, Private Forests and Woodlands in 1933.

State Forests.	1932	1933
Timber in the rough;	cubic feet.	cubic feet.
(i) Logs	70,727	138,305
(ii) Poles	14,129	30,253
Sawn or Squared timber	185,982	138,728
Plough, Cart and other hardwood	7,604	45,920
Fuel, from all species of wood	259,480	537,832
Charcoal, from all species of wood	25,573	31,889
Total	<u>563,495</u>	<u>922,927</u>

Private Forests and Woodlands.

Timber in the rough:		
(i) Logs	389	1,529
(ii) Poles	24,828	34,479
Sawn or squared timber	14,173	40,095
Plough, Cart and other hardwood	6,121	3,270
Fuel, from all species of wood	60,997	61,720
Charcoal from all species of wood	328,508	190,200
Total	<u>435,016</u>	<u>331,293</u>

APPENDIX 13.

Statement of the Utilization and Total Consumption of Timber and Fuel from all Sources.

1. Timber.	cubic feet.	cubic feet.
Stock of Timber on 1.1.1933:		
Forest Department's stock	53,942	
Timber Merchants' stock (estimated)	580,670	634,612
Timber extracted from State Forests in 1933:	353,206	
Timber extracted from Private Woodlands „	79,373	
Timber imported into the Island in 1933	588,744	1,021,323
Total of Timber available for use in 1933:		1,655,935
Deduct stock of Timber on 31.12.1933:		
Forest Department's stock	40,347	
Timber Merchants' stock (estimated)	554,708	
Timber exported	1,169	596,224
Timber actually used in 1933 (estimated)		1,059,711

or

2.95 cubic feet per head of population (2.39 cubic feet in 1932).

2. Fuel.

Stock of Fuel on 1.1.1933;		
Forest Department's stock	119,537	
Fuel Merchants' stock (estimated)	46,000	165,537
Fuel extracted from state forests in 1933	537,832	
Fuel taken from the state forests by permits, right and privilege holders (estimated)	846,760	
Fuel extracted from private woodlands in 1933	61,720	
Fuel extracted from privately owned fruit trees in 1933 (estimated)	474,000	
Fuel imported into the island	—	1,920,312
Total of fuel available for use in 1933		2,085,849
Deduct stock of fuel on 31.12.1933:		
Forest Department's stock	108,365	
Fuel Merchants' stock (estimated)	38,000	146,365
Fuel actually used in 1933 (estimated)		1,939,484

or

5.44 cubic feet per head of population (5.21^{*} cubic feet in 1932);
but the population was 3,719 more people.

^{*}Correct figure in 1932. Fuel extracted from privately owned fruit trees now included.

APPENDIX 14.

Forest Revenue for 1933.

	Cash collections.	Sales to Government Departments	Grand Total.
Permit Fees.	£ s. cp.	£ s. cp.	£ s. cp.
1. Timber Permits	14.16.4	— — —	14.16.4
2. Fuel Permits	63.13.0	— — —	63.13.0
3. Lime Permits	— — —	— — —	— — —
4. Charcoal Permits	— — —	— — —	— — —
5. Grazing Permits	25.17.2	— — —	25.17.2
	104.6.6	— — —	104. 6.6
Sales of Timber etc.			
6. Sales of Bark	1.13.0	— — —	1.13.0
7. Sales of Timber	6,485.16.8	131.19.5	6,617.16.4
8. Sales of Fuel	2,779. 6.3	641.12.7	3,420.19.1
9. Sales of Charcoal	205.15.1	27.16.4	233.11.5
10. Sales of Snow	2. 1.3	— — —	2. 1.3
11. Sales of Stone	31.12.4	— — —	31.12.4
12. Sales of Seeds	45.18.2	— — —	45.18.2
13. Sales of Fruits and Ve- getables	77. 7.2	— — —	77.7.2
14. Sales of Minor Forest Produce	661. 9.4	19. 2.8	680.12.3
15. Sales of Confiscations	41. 7.1	— — —	41. 7.1
16. Sales of Plants	70. 5.3	— — —	70. 5.3
	10,402.12.4	820.11.6	11,223. 4.1
Other Revenue.			
17. Rent of Lands	297. 8.4	0. 6.6	297.15.1
18. Transport Charges	70.14.7	64. 3.5	134.18.3
19. Cutting Charges	79. 4.2	30.19.8	110. 4.1
20. Other Revenue (Sales of old articles)	17. 3.0	0. 2.1	17. 5.1
21. Road Tolls	34.15.5	— — —	34.15.5
22. Telephone Charges	37.13.8	— — —	37.13.8
23. Protection Fees	44.16.2	— — —	44.16.2
	581.16.1	95.12.2	677. 8.3
Total	11,088.15.2*	916. 3.8**	12,004.19.1

* In addition £ 1,263.9.5 cp. derived from fines paid and compensations due to the activities of the Forest Department were credited in the Island accounts under Head 3, «Fines and forfeitures».

** Sales to Government Departments not credited to Forest Revenue; they are considered as expenditure credits.

APPENDIX 15.

Statement of Expenditure from Forest Department Votes during the year 1933.

Head.	S u b - h e a d s .	Total. £ s.cp.
20 A.	Personal Emoluments	12,793.12.7
20 B.	Training of Officials	363.15.0
21	Library	12.13.4
22	Fire Protective Measures	872. 2.7
23	Fire Fighting	152. 8.8
24	Forest Protection	98.18.2
25	Silvicultural Maintenance Operations	229. 9.3
26	Forest Utilization	9,059. 2.3
27	Maintenance of Plant, Machinery and Animals	872.18.0
28	Temporary Staff	1,402. 4.5
29	Delimitation, Forest Survey and Working Plans	888. 9.2
30	Maintenance of Roads	407.10.8
31	Maintenance of Buildings	98. 5.8
32	Uniforms	224.11.2
33	Travelling	1,012.15.2
34	Rent	17.12.0
35	Lighting and Heating	44. 9.4
36	Contributions to Associations	131.18.0
37	Postage, Telegrams and Sundries	27.19.3
	Railway Fares and Freight	134. 5.6
	Timber Store, Kyrenia	495. 2.6 *
	Land and Water purchases	40. 0.0
Total		£ 29,380. 4.8 cp.
Deduct receipts from Government Departments		918.13.6 **
Actual Total		£ 28,461.11.2 cp.

* Against sale of old Store Kyrenia, for £500, credited to Head 9, Miscellaneous Item 10, "Sundry Receipts" (Sale of Government Property).

** Includes £2.9.7 cp. for loss of time and services rendered (overpayments recovered).

APPENDIX 16.

Administration Account of the year 1933.

1932		1933.
£		£ s. cp.
12,535	Personal Emoluments	11,579.18.8
268	Uniforms	224.11.2
8	Books and Publications	12.13.4
1,088*	Travelling Expenses and Allowances	325.18.4 **
58	Rents	17.12.0
64	Lighting, Heating and Office expenses	66. 8.2
Clerical Staff :		
1,629	General Clerical	1,113.17.3
287	Temporary Clerks and Clerical Assistance	344.18.0
65	Expenses of Officers on duty leave	— — —
1,290	Expenses of Cypriots' training in England	363.15.0
132	Contributions to Associations	131.18.0
<u>£ 17,424</u>	Total Administration	<u>£14,181.10.5 cp.</u>

Survey Account for the year 1933.

716	Survey and Delimitation	460.12.4
259	Working Plans	427.16.7
<u>£ 975</u>		<u>£ 888. 9.2 cp.</u>

Expenditure on Capital Works during the year 1933.

153	Improvement of Nurseries	— — —
338	Planting	39.14.3
56	Seed collection from Nurseries	— — —
64	Terracing and Water Supplies	12. 2.1
205	Roads and Paths	252.10.2
198	Telephones	36.15.8
301	Buildings	531.17.5
10	Land Purchases	40. 0.0
43	Plant	42.13.2
270	New Works at Moumouros Sawmill (amount capitalised)	229.19.5
<u>£ 1,638</u>		<u>£ 1,185.12.8 cp.</u>
1,478	Depreciation written off	1,348. 0.0
160	Increase in value of Capital Works	
	Decrease in value of Capital Works	162. 7.1

* Included Executive Staff.

** Only Administrative Staff.

APPENDIX 17.

Approximate Division of Expenditure from Vote
20 among the various channels of payments,

	£
Wages of labourers employed on daily Wage basis	5050
Contracted payments for Extraction and Transport of Forest Produce by local agencies	3500
Payments to local traders and Contractors for local purchases, repair-work and piece-work contracts	2650
Petrol and Oil Purchases	300
Personal Emoluments Cypriots	7820
English Officials	4880
Temporary and Survey Officials and Commission on sales	3300
Travelling Expenses and Allowances	1000
Payments direct to Overpayments Recovered and outside sources	750
Sundry	150
	<hr/>
	£ 29,400

APPENDIX 18.

Statement showing amount invested since January 1st 1931, amount of stock, plant and buildings belonging to the Department at that date, and the tangible and intangible assets represented in those amounts at December 31st, 1933.

Amount invested by Government.		Tangible assets owned by the Department at 31.12.1933.	
	£ s.cp.		£ s.cp.
Invested from 1.1.1931 to 31.12.1932	65,689. 3.0	Plant and Machinery,	5,432.14.6
Invested in 1933:-		Stocks at Timber Stores,	4,104.10.7
Expenditure Vote 20,	£28,461.11.2	Utilization Works Capitalised,	500. 0.0
Relief Works Expenditure	205.18.5		<hr/> 10,037. 5.4
	<hr/> £28,667. 9.7	Improvements in the Forests.	
Less :- Revenue Head 10,	12,352. 4.7	Property purchases,	504. 3.0
	<hr/> 16,315. 5.0	Silvicultural Undertakings,	1,696.12.6
		Roads, Buildings and Telephones,	5,774. 1.7
Working Account Surplus earned		Forest Services.	
since 1.1.1931	3,628. 1.8	Cost of Maintenance, Administration and Survey work since 1.1.1931.	67,467.11.4
		Surplus Balance.	
	<hr/> £ 85,632 9.8	Amount due to Department for sales	152.15.5
			<hr/> £85,632. 9.8

APPENDIX 19.

Statement of Services rendered, Privileges, Forest Grants of Fuel and Timber, or Sales at rates, calculated at the market rates, etc.

Estimated value of the fuel removed from the Forests under permits (31,825 loads) at 3 cp. per load	£530. 8.3 cp.	
Less amount collected	£ 63.13.0	466.15.3
Estimated value of the fuel removed from the State Forests by privileged villages (179,505 loads) at 3 cp. per load		2,991.15.0
Estimated value of the fuel removed from the Forest by Kykko Monastery free of charge, under an agreement (3,600 loads) at 3 cp. per load		60. 0.0
Estimated value of the seedlings issued to Government Departments and to the Cyprus Forestry Association free of charge (620 seedlings at 1cp. each)		3. 8.8
Loss to the Department for timber supplied to other Government Departments at cost prices		10.18.6
Value of seeds issued free of charge (34 okes and 294 drams)		4.10.0
Estimated value of the free grazing in the forests (59,203 animals at 10/- per animal)		29,601.10.0
Fines paid to Court in respect of Forest Offences	889. 2.1 ½	
Stamps affixed on documents and contracts	67.13.3 ½	
Estimated value of casual damage to trees etc. in the forests and plantations by shepherds and others		5,000. 0.0
Estimated yearly value of water supplies in forests and plantations, used by the public	4,000. 0.0	
Estimated yearly value of water supplies taken out of the forests and used by the public	25,200. 0.0	
Estimated value of forest roads used by the public (146 miles at £2 per year)		292. 0.0
Total	£68,587.13.4 cp.	