

G U Y A N A

ANNUAL REPORT

OF THE

FOREST DEPARTMENT

FOR THE YEAR

1968

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C O N T E N T S

	<u>Paragraphs</u>
General Review	1
Forest Policy and Legislation	2-4
The Forest Estate	5-7
Administration & Management	8-15
Stockmapping	16-17
Surveys	18-21
Communications ..	22-27
Buildings ..	28-29
Protection ..	30
Silviculture	31-37
Investigation & Research ..	38
Weather Records	39
Utilization	40-46
Utilization Division Forest Department	47-50
Production & Trade	51-64
Imports & Exports	65-68
Forest Department Timber Yard ..	69-78
Revenue & Expenditure	79-82
Staff & Labour	83-92
Visitors	93
Obituary	94
Acknowledgements	95

STANDARD FORMS:

- V Summary of Forest Offences for the year, 1968.
- VII Outturn in solid cubic feet of timber and fuel for the year, 1968.
- IXa Primary Forest Industries, 1968.
- IXb Labour
- X This form has been omitted - figures are not yet available from the Statistical Bureau.
- XIa Summary in Dollars of Revenue and Expenditure for the year, 1968.
- XIb Development Expenditure for the year, 1968.
- XII Comparative statement of revenue and expenditure for the years 1959-1968.

APPENDICES:

- A. Explanation of terms used in the Report.
- B. Rainfall figures for 1968.
- C. Production of Timber from State Forests in 1968.
- D. Prices of Forest Products, 1968.
- E (i) Trading Account, 1968) C. T. R. P.
(ii) Stock Account, 1968)
- F. U.N.S.F. project - Forest Industries Development Survey.

GENERAL REVIEW

1. The most noteworthy features of the year vis-a-vis forestry are given below. Figures in brackets refer to the relevant paragraphs in the Report.

- | | | |
|--------|--|---------|
| (i) | Amendment to the Forests Regulations. | (4) |
| (ii) | Aggravated shortage of assistant Conservators. | (10) |
| (iii) | Very busy year in Surveys Division. | (16-21) |
| (iv) | Co-operation with Atkinson-Mackenzie Highway Development Project. | (32-33) |
| (v) | Saw-doctor shop started by UNSF project. | (41) |
| (vi) | Increased work in seasoning and preservation. | (48) |
| (vii) | Forest Department wins Chamber of Commerce Cup at National Exhibition of Local Products. | (50) |
| (viii) | Species other than Greenheart being used. | (55-56) |
| (ix) | Decline in export trade. | (65) |
| (x) | Definitive plan for development of Forest Department Timber Yard | (71) |

Hereafter, wherever in the text figures appear in brackets, they give the comparable data for 1967.

FOREST POLICY AND LEGISLATION

FOREST POLICY

2. The forest policy of Guyana remains as follows:-
- (i) To develop the forest resources of the country as part of an integrated land use policy for the conservation and development of all natural resources.
 - (ii) To manage the forests on the basis of sustained yield.
 - (iii) To increase production from the forests, subject to (ii) above, with a view to:-
 - (a) filling the country's requirements of domestic products;
 - (b) developing secondary processing industries within the country;
 - (c) exporting a maximum of forest products.
 - (iv) To ensure a reasonable return to the community on the exploitation of the forest crop.
 - (v) To develop markets for species now considered to be unmerchantable.
 - (vi) To provide access to forest areas.

3. During the year under review there have been further examples of the fact that the government is now properly aware of the true nature of the forest resource of the country - its problems as well as its potential. More and more steps are being taken to ensure the implementation of the declared forest policy for the benefit of the people of Guyana, but, there still remains a great deal to be done.

LEGISLATION

4. An amendment to the Forests Regulations (No. 18 of 1968) was passed during the year. The main provisions of this amendment were as follows:-
- (a) concerning the demarcation of boundaries to Crown Forest leases and the payment of fees for survey;
 - (b) concerning the granting of depot and transport privileges in and across Crown Forests (leases included);
 - (c) concerning the payment of certain fees relating to applications for wood-cutting leases, sawmill and timber dealers licences;
 - (d) relating to amendments of the form of a timber removal permit.

THE FOREST ESTATE

5. There was no change in the constitution or management of the Crown Forests as originally proclaimed by the Forests Ordinance of 1953, and these forests continue under the charge of the Forest Department. They cover, in a single block, an area of some 29,000 square miles, and within them are found all of the major and most of the smaller logging leases and operations

6. Outside of the Crown Forests - to the north-east and south - lie the Crown Lands which contain, approximately, a further 41,000 square miles of forest. The region to the south of the Crown Forests is presently inaccessible to logging and unless there is a considerable opening of the interior - by roads and settlement - the forests of this area are likely to remain beyond the reach of commercial logging for many years to come. In the north-east, however, (i.e. between the lower courses of the Essequibo and Corentyne Rivers) there are logging operations within the Crown Lands, but these produce less than 8% of the total output. These areas are 'salvage' forests, generally of a poor type - either naturally so, or reduced to this state by repeated creaming and abuse over the last half century. It is of interest to note, however, that within this portion of the Crown Lands are to be found many areas of possible use for the large-scale introduction of fast-growing exotic species. It is proposed - in the 1966-72 Development Plan - to carry out extensive field trials along these lines and it will become necessary to ensure that all plantations which will be established are given adequate protection against other forms of land use.

7. As the extent etc., of the forests are thus simply described, Standard Forms I and II have been omitted from this report.

ADMINISTRATION AND MANAGEMENT

ADMINISTRATION

8. The Forest Department continued to operate under the Ministry of Agriculture and Natural Resources.

9. Even though the Forest Department does not have its full complement of senior clerical staff the fact that there were no changes in the personnel at headquarters during the year contributed greatly to the smooth running of its affairs. This was possible because the few senior men there were did a great deal of work and, in addition, trained junior personnel, who in turn have shown commendable willingness to learn. The divisions, however, suffered considerably from changes in clerical staff and shortages of range personnel.

10. The most crippling disadvantage under which the department is forced to operate is the lack of Assistant Conservators and Forest Inspectors. With the resignation of the Deputy Conservator and the consequent promotions, there are now only two (out of an authorized strength of six) Assistant Conservators. Such officers are, admittedly, difficult to recruit overseas to serve in Guyana, but the most worrying aspect of this matter is the fact that there are no Guyanese in training. In December, an indent was sent out for the recruitment of four assistant conservators.

11. The reasons for there being no forest inspectors on the strength at year-end (full establishment of four) are not known to this department. The appointments are in the hands of the Public Service Commission. The effects are plain, however, when the administration of the divisions comes under close scrutiny - especially now that the professional officers have been withdrawn and each division is under the charge of a senior forest inspector.

MANAGEMENT

12. The distribution and area of Crown Forest leases in force at the end of 1968 were as follows:-

ACREAGE	North West Division	Essequibo Division	Demerara Division	Berbice Division	TOTAL
Under - 500	-	1	-	3	4
501 - 3,000	-	17	3	-	20
3,001 - 10,000	-	7	6	-	13
10,001 - 50,000	1	6	10	4	21
Over - 50,000	-	5	-	-	5
TOTAL - NUMBER	1	36	19	7	63
TOTAL - ACREAGE	46,350	2,167,570	302,450	106,080	2,622,450

13. There was no change in the general nature or number of leases in operation. The main problem concerning the issue of new leases - that of getting the lessees to cut their boundary lines should now be solved by the new regulations (see para. 4).

14. A total of 1,358 (1,291) non-exclusive permissions were issued during 1968. The distribution was as follows:-

DIVISIONS

ESSEQUIBO	333	(423)
DEMERARA	83	(92)
BERBICE	511	(271)
NORTH WEST	431	(505)
	<u>1,358</u>	<u>(1,291)</u>

Only the increase in the number of permissions issued in Berbice is worthy of note. This increase corresponds with the rise in the production of species other than greenheart in this division - the small loggers, especially on the Courentyne River, being responsible (see para. 57).

15. No formal working plans have yet been drawn up because of the present - and long established - wide-ranging pattern of forest exploitation coupled with the lack of certain basic data necessary for planned management. The system of block-working continues to be operated in the bigger leases. This system, however, leaves much to be desired being very difficult to enforce consistently. It is hoped that one effect of the present U.N.S.F. Forest Industries Development Survey will be to enable proper plans to be drawn up for, at least, the better forest areas.

STOCKMAPPING

16. The Aerial Photo-interpretation and Surveys Division continued to operate full time with the U.N.S.F. Forest Industries Development Survey project. (See Appendix F) Surveys are, therefore, high priority and the production of forest type maps by the use of aerial photographs is, of course, vital. This was a bumper year for such - some 12,206 square miles being mapped.

17. A set of 796 prints of photographs (1/60,000 scale) taken by the RAF in 1964 was received during the year. In addition, other photographs were kindly loaned to the department by the Director of Geological Surveys.

ENGINES

26. The mechanical workshop carried out complete overhauls and repairs to seven outboard and four inboard engines and part overhauls to nine other outboard engines. These works were, of course, in addition to those done on the road vehicles and also to the overhaul, repairing and servicing of smaller items of equipment like chain saws, swing fog machines, magnetos etc.

REQUESTS FOR TRANSPORT

27. The department continued to assist other government departments by the loan of boats and crews. A new system of charges has been established which will lead to a fair proportion of normal maintenance being paid by each borrower.

BUILDINGS

28. There has been a large number of interior changes - five new offices and a room for records have been established within the present buildings. A timber shed was dismantled in the Central Timber Manufacturing Plant to make more room for stacking and a new garage erected in the headoffice compound. The storeroom was completely refurbished and a new wall erected. A building was erected at the National Park to house the Forest Department's exhibit (see para 50). This is a permanent structure. Work was started on the green-chain in the Central Timber Manufacturing Plant. In addition, there were numerous small jobs like the building of a proto-type heavy duty trailer for the Timber Plant, fencing the compound, building cupboards, trestles etc.

29. The Ministry of Works renovated the Rangers' Quarters at Arapiako, Pomeroun River and also erected a gasoline bond at this station. They had also nearly completed the erection of the boat-house on the Caje River in Berbice.

PROTECTION

30. A total of 76 (84) forest offences was brought forward or reported during the year. Of this number, 72 were dealt with and four were pending at year-end. The offence of conveying forest produce without an accompanying removal permit vied with illicit felling for first place in 1968. (twenty cases each) The continuance of the general tendency for a decrease in the number of offences (1966 - 101, 1967 - 84) was most welcome. Further details are given in Form V.

SILVICULTURE

31. The restriction of silvicultural operations because of shortage of finance had unfortunately to continue in 1968 even though it became possible to get some new planting established by careful husbanding of the funds provided.

ARTIFICIAL REGENERATION - EXOTICS

32. The Forest Department, co-operating with the Atkinson-Mackenzie Highway Development Project, was able to establish 20 acres of experimental plantation (*Pinus caribaea*) in the savanna forests at Kuru Kuru Creek and, in December, cleared 12 acres of low forest for a future nursery site and also for further planting in 1969.

33. It is planned to establish large acreages of plantations along the Mackenzie Highway as part of the development programme for this area which has been opened up by the highway. The funds will be made available to the Forest Department by the Project and there is no direct vote of money for re-forestation. It would be preferable if there were such.

34. Thirty acres of P. caribaea were planted up by the nurseryman at Ebini, Berbice River. This nursery is now being closed down.

35. Seventy five acres of Caribbean pine plantation at Haiama, Demerara River, were weeded and beaten up (i.e. gaps, caused by deaths etc., were replanted). The silvicultural staff carried out normal tending of the plantations - including brashing, pruning and thinning - along the Bartica-Potaro Road and in the P. caribaea var. bahamensis plot in the North West District.

36. Very promising results were obtained in the battle against the leaf-cutting acouchi ants (Atta spp.) by the use of a new insecticide - Mirex. This is a bait poison and very easy to apply. There was still some damage, however, in the farthest plantations which our limited resources could not cover.

37. Because of shortage of funds there was no new work done in this line. However, the boundaries of the reserves which contain the experiments in natural regeneration - Mazaruni (H.M.P.S.) Barabara, Moraballi, 24 Miles Bartica-Potaro were all cleared and re-demarcated on the ground.

INVESTIGATION AND RESEARCH

39. Rainfall data are given in Appendix B.

UTILIZATION

SAWMILLING

40. The officers of the U.N.S.F. project (Forest Industries Development Survey) continued to give advice to sawmillers and to assist in improving routine maintenance and solving any problems arising. Both the sawmill officer and the sawdoctor were actively engaged and there was a great and sustained demand for their services. The effects are very evident in the improved quality of lumber being offered for sale and this was especially seen in the lumber being sold to the Central Timber Manufacturing Plant.

41. With the very kind co-operation and goodwill of Messrs. Guyana Timbers Ltd., a sawdoctor shop was opened on their premises. This is only a temporary home for the equipment supplied by the U.N.S.F. project - the departmental shop will be built in 1969 near to the Utilization Workshop. The courses put on have been in great demand and each has been fully attended. There are six sawdoctor trainees who are taking the full course - five having been sent by the industry.

PORTABLE SAWMILL

42. The government of Guyana has applied to an overseas government, under bilateral aid, for the provision of a portable sawmill and certain logging equipment. If the application is granted the plan is that the mill will be sited and operated in the forests and its log supply provided by the logging equipment. The intention is to establish a model forest operation which, it is believed, will help to solve the problem of the exploitation of many species not now considered to be merchantable because of their reputed low value, defects etc, but which abound in the forests that have been creamed of greenheart.

43. A combined operation was mounted whereby the Surveys Division has carried out the necessary inventory/an area of 488 acres in the first place (see para. 19), the logging and transport officer (UNSF) has prepared a road and logging plan and the sawmill officer has submitted estimates of cost and production. The first area chosen lies within the lease held by Guyana Timbers Ltd, as the present plan envisages that this company will be given the executive agency for the project. This company has also provided important cost data for the feasibility study of the project. Word was awaited at year-end of the overseas reaction to this project.

USE OF LOCAL TIMBER

44. It is with a certain pleasure that the continued improvement in the use of other useful species than greenheart and crabwood is recorded (see paras. 55-57). The efforts of the Forest Department to popularize these other species would certainly appear to be paying off, but a great deal more remains to be done. This is going to be difficult as long as the export market is in a state of depression (see para. 54). On the other hand, loggers and millers must seize every opportunity to stabilize or lower the price of lumber and using all worthwhile species is certainly one way in which to do this.

PARTICLE BOARD

45. The particle board factory did not operate during the year but was finally put up for sale and purchased by a private company in the latter part of 1968. This company has plans for resuscitating the factory and for extending its operations.

PLYWOOD AND WOODPULP

46. Negotiations along these lines with one large overseas company fell through early in 1968, but in December another large foreign company evinced interest in wood pulp possibilities and made arrangements for visits and consultations early in 1969.

UTILIZATION DIVISION, FOREST DEPARTMENT

47. The lack of an assistant Utilization Officer was greatly felt for half the year while the Utilization Officer was in North America on a UNSF fellowship. The posts of carpenter-joiner and two workshop assistants were filled and four more trainee timber technicians were appointed during the year.

48. The emphasis of the work in this section has continued to be centred around sawmill improvement (see paras. 40-43) and, internally, around the operations of the wood-preservation and seasoning officer (UNSF) who has been very busy on both aspects of his job. He has done considerable work on pressure preservation and diffusion impregnation (boron) - the latter entailing a very large quasi-commercial operation carried out in the department as well as on the sap displacement method for treating poles. He has also set up both air-seasoning and kiln drying studies as well as started some experimentation re forced air drying.

49. The Moore experimental kiln was finally brought into use and has been performing well.

50. Once again the building section of this division participated in most of the exhibitions which were mounted throughout the country during the year (six in number). The crowning point of its work was at the "Buy Local" Exhibition of National Products which was arranged by the Ministry of Agriculture and Natural Resources. A pavilion was erected to house displays of timber (flooring, panelling etc.) as well as of seasoning and preservation. The exhibit won the cup presented by the Chamber of Commerce for the best government booth. It was precluded from competing with the displays put on by commercial firms for the Governor-General's cup.

PRODUCTION AND TRADE

TIMBER

51. Details of total production of timber (by species) are given in Appendix C. Volumes are expressed in cubic feet (Hoppus) in this appendix and also in the sections which follow here. In the latter, wherever figures appear enclosed in brackets, they represent the corresponding production in 1967 and are given to enable quick and easy comparison.

52. The total production of timber (logs, splitwood and roundwood) from government forests in 1968 was 5,919,200 cu. ft. (5,974,200). In sawn lumber (production of sawmills and sawpits in the forest - royalty being paid on the sawn material and not on the round) the equivalent of 91,600 cu. ft. (106,700) was extracted from the forests. Of the total timber production, greenheart (*Ocotea rodinei*) accounted for 3,653,700 cu. ft. (3,617,400) or 61.7% (60.5). The position of this species with respect to sawlogs only is given in para. 55.

53. The distribution of timber production from the four territorial divisions is given below. Individual species are named only in their production exceeded 20,000 cu. ft:-

DIVISIONAL LOG PRODUCTION

ESSEQUIBO DIVISION

		Cu. Ft.	Hoppus (nearest 100)
Greenheart ..	..	3,281,900	(3,271,400)
Purpleheart ..	..	242,200	(240,000)
Wallaba ..	..	209,700	(182,200)
Mora ..	..	105,800	(186,000)
Crabwood ..	..	98,600	(112,400)
Tauroniro ..	..	52,600	(56,400)
Kabukalli ..	..	44,400	(52,100)
Kereti ..	..	36,400	(31,300)
Simarupa ..	..	27,300	(26,200)
Karahoro ..	..	25,500	(29,200)
Locust ..	..	25,200	(35,400)
Shibadan ..	..	24,400	()
Duka ..	..	23,700	()
Tatabu ..	..	22,300	(26,500)
Silverballi ..	..	22,300	()
Dalli ..	..	21,700	(24,300)
Wamara ..	..	20,000	()
Other Species ..	..	84,500	(116,000)
TOTAL ..	..	4,368,500	(4,389,400)

DEMERARA DIVISION

Greenheart ..	..	205,400	(163,500)
Wallaba ..	..	48,800	(51,400)
Mora ..	..	22,300	(42,900)
Other Species ..	..	79,300	(86,700)
TOTAL ..	..	355,800	(344,500)

BERBICE DIVISION

Cu. Ft. Hoppus
(nearest 100)

Greenheart	..	..	..	..	..	..	166,400	(181,400)
Kabukalli	..	..	..	..	..	..	239,800	(160,000)
Kereti	..	..	..	..	..	..	217,000	(178,900)
Crabwood	..	..	..	..	..	..	93,500	(101,500)
Mora	..	..	..	..	..	..	85,300	(74,400)
Tauroniro	..	..	..	..	..	..	46,600	(27,900)
Dukali	..	..	..	..	..	..	36,400	(20,400)
Simarupa	32,200	(25,100)
Wallaba	21,700	(42,600)
Other Species	30,800	(41,300)

TOTAL							969,700	(853,500)
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NORTH WEST DIVISION

Crabwood	73,500	(182,000)
Kirikaua	55,200	(59,200)
Dalli	21,900	(64,300)
Other Species	74,700	(81,300)

TOTAL							225,300	(386,800)
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SUMMARY

ESSEQUIBO DIVISION	4,368,500	(4,389,400)
DEMERARA DIVISION	355,800	(344,500)
BERBICE DIVISION	969,600	(853,500)
NORTH WEST DIVISION	225,300	(386,800)

TOTAL							5,919,200	(5,974,200)
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54. The pattern of trade established in the latter half of 1967 continued throughout 1968. The overseas demand for greenheart (the main export species) remained firmly down but the home market for lumber for building maintained its high level and verily saved the timber trade. The lack of exports again resulted in a large volume of greenheart, that would normally have been exported, being diverted to the local market.

55. The total production of lumber species (i.e. all species shown in Appendix C - except wallaba) fell by 59,000 cu. ft. as compared to 1967 (-285,000). Greenheart output rose slightly -- by 36,000 cu. ft. (-279,000) but crabwood production fell considerably by 131,000 cu. ft. (+118,000). Production of species other than greenheart and crabwood maintained a satisfactory level, actually rising by 36,000 cu. ft. (-124,000) being 30½% of the total lumber produced as against 29½% in 1967.

56. The two most important features in the production of species other than greenheart and crabwood have been the marked rise in that of kabukalli and, on the other hand, the decline of mora. The former is due entirely to the increased use of locally produced kabukalli in place of crabwood (mostly imported from Surinam) on the Courentyne coast in Berbice. The decline of mora was due to a falling off in the sleeper trade and the almost complete cessation of exports of this commodity. One sleeper mill in the Pomeroun was closed down (temporarily, it is to be hoped) at year-end.

57. The Berbice Division again continued to show an increase both in total lumber production and in the use of species other than greenheart or crabwood. The North West Division had a bad year partly owing to the closing of the manganese mines at Matthews Ridge, but mostly because of the main saw-mill in the area being out of commission for four months.

58. The production of timber from privately owned forests was recorded at 167,000 cu. ft. (153,000) during 1968.

59. Standard Form IX gives production data relating to the local primary forest industries, which are taken for this purpose to include all sawmills and the match factory. Normally, the particle board factory is also included, but this plant did not operate during the year (see para. 45).

FUEL

60. The production of firewood in 1968 decreased to a figure of 587,360 Hp. cu. ft. (717,568) while charcoal output increased to 2,004,288 lb. (1,214,784). There is, as yet, no significance to be drawn from either the fall of one or the increase of the other. Both commodities are but a shadow of what they were a few years ago.

EQUIVALENT OUTTURN

61. Standard Form VII shows the "equivalent volume of round timber" in true measure under bark for the following categories:- timber, round-wood, split-wood, wood for fuel, wood for charcoal. These figures have been obtained by applying suitable factors (given in a footnote to Form VII) to the volumes recorded for royalty purposes and seek to represent the actual volume of felled timber which went into their production.

MINOR FOREST PRODUCTS

62. Balata: The total collection fell to 535,772 lb. in 1968 (811,400) and the royalty thereon amounted to \$10,715 (\$16,227).

63. Mangrove Bark:- The amount of mangrove bark collected in 1968 was 476,687 lb. (504,600). This produce is used in the local tanneries and is obtained from the banks of the lower Waini River, North West Division.

64. The inclusion here of statistics relating to these two items of minor forest produce renders the use of Standard Form VIII unnecessary and it has accordingly been omitted.

IMPORTS AND EXPORTS

65. At the time of writing, the Statistical Department has not yet compiled the final statistics of imports and exports of timber and wood products for 1968. It is not yet known when this data will be available. Form X has, therefore, had to be omitted but will be included in an Appendix of the Annual Report for 1969.

66. It is reported, however, that the decline in exports, which commenced in the latter half of 1967, continued throughout 1968. The latter year, therefore, was a poorer one in the main world markets than 1967, which was itself a bad year. The greatest fall has been recorded in exports to the United Kingdom when the credit squeeze continued to be the main cause of the restriction. However, there is also some competition from West African timbers which was aggravated by a freight increase (from Guyana to U.K.) of 9^d per cu. ft. as from 1st May, 1968.

67. Exports to the Caribbean market, on the other hand, were above the normal level and a further expansion is anticipated as the effects of the Caribbean Free Trade Area (CARIFTA) begin to assert their full influence on trade within the region..

68. The Conservator of Forests was chosen to be a member of the Trade Mission to Carifta in November, 1968. The findings of this mission show clearly that there is a considerable market for Guyana's lumber which is as yet untapped by the timber trade. Securing this market against the competition of softwoods from North and Central America will demand imagination and push as well as good organisation and co-operation from the industry, but, under these conditions, a good market lies within our grasp in the Caribbean countries.

FOREST DEPARTMENT TIMBER YARD

69. As stated in previous reports, the main objectives of the Central Timber Manufacturing Plant are as follows:-

- (1) To promote the use of timber species not now in full use or not now considered to be merchantable (See section V of statement of Forest Policy at para. 2).
- (2) To promote the use of seasoned, well machined and graded lumber.
- (3) To provide a nucleus around which a serious and determined effort can be made to enter the export market in lumber especially in the Caribbean countries.
- (4) To guide progressive thought and action (in the sawmilling industry) in the technical and mechanical field of the local timber industry e.g. seasoning before machining, production of lumber to international (graded) specifications, acceptance of standards, installation and proper maintenance of the right equipment and machines.
- (5) To assist small sawmillers:-
 - (a) by providing a ready market for their production in species other than greenheart and crabwood;
 - (b) by encouraging and guiding the improvement of the quality of their products.

70. After years of financial stringency and restrictions, the Plant can now operate at a level which is similar to what would obtain under commercial practice. The big, overall problem which remains, however, is quite simple - how can production be sufficiently increased to make the operation profitable?

71. This problem has been vigorously tackled in 1968. The U.N.S.F. Mill Manager (adviser) has worked very hard and conscientiously both in day to day management and in putting forward the required development plan. The project has now submitted, and had approved, a final definitive plan for the reorganisation and expansion of the C.T.M.P. This plan calls for the installation of a conveyor from the wharf and a green-chain for sorting the lumber in lengths, widths and species. From this point it will be moved to stack by a fork-lift truck. A small cub tractor and improved trailers will also be used in the operations. The U.N.S.F. will supply the basic machinery and government of Guyana will provide counterpart works e.g. roads, paved stacking area, installation costs, building of a new wharf etc.

72. At year-end orders had been placed for the equipment and work had commenced on paving an area of $\frac{1}{4}$ acre for additional stacking. The wood-work for the greenchain had also been put in hand. One stacking shed had been removed to make way for mechanical stacking to 15 feet in height.

73. Two other problems now remain. Firstly, the rate of absenteeism among plant workers is inordinately high - 15%. Secondly, it is difficult - if not impossible - to run this plant as a viable commercial operation if it is to be bound by the system of government accounting and general organisation. The difficulties which have to be overcome daily call for decisions which cannot be made within the framework of a government department.

74. The year 1968 was, however, in many respects, a disappointing one. The overall trading position - in comparison to previous years - was by no means unsatisfactory but the general knowledge, in the plant management, of opportunities lost or, at least, not taken up fully, has left a depressing affect. The problem was the old one - production. The markets were there, and, except possibly for two months, the dried lumber was on hand, but output fell well below expectations. This was largely due to the fact that for the greater part of the year, the plant had to operate with the old exhaust blower system which had almost completely broken down. Only one machine could be operated at a time. Even then, however, the unreliability of labour prevented the attainment of such production as could have been obtained. Finally, when the new fan system was installed it was found not to be working to the specified capacity. Negotiations are in progress with the makers through the Crown Agents.

75. Thus, in 1968, the main items of our operations were as follows:-

(a)	Purchases	-	830,600 f.b.m.	(709,000)
(b)	Sales	-	736,800 f.b.m.	(495,000)
(c)	Planned production		516,600	(693,000)
(d)	Percentage of grades produced:-			
	(i)	A grade	- 58	(37)
		B "	- 35	(52)
		Degrade	- 1	(3)
		Reject	- 1	(1)
		Special	- 1	(-)
		Lath	- 4	(7)
(e)	Stock on hand at 31/12/68			
	(i)	Rough lumber	750,000 776,400	(552,000)
	(ii)	Dressed "	66,400 97,700	(225,000)
	(iii)	Total	816,400 874,100	(777,000)
(f)	Trading loss		\$29,900 24,410	(\$28,518)

76. The overall trading account is, therefore, nothing to be ashamed of. There are several bright and promising spots. The ~~increase~~ trading loss is a direct result of low production (para. 73) and, but for the failings of plant labour, would have been acceptable.

77. All the possibilities and promise to be desired lie before the plant in 1968. The new plan of operations and organisation is being implemented, the local market is all that can be desired and the Caribbean is wide open to a vigorous sales policy.

78. One could not close this section without paying tribute to the sterling work of the Mill Manager, Mr. Lloyd Harry, who retired in October. Over the years - the bad years of the early sixties - his knowledge and unflagging determination, his careful organization and accurate planning have all contributed greatly to the fact that the plant is still in existence. We wish him and Mrs. Harry all the best of good health and happiness in the future.

REVENUE AND EXPENDITURE

REVENUE

79. The total revenue collected during 1968 amounted to \$452,136 (\$439,438). Once again, considering the depressed state of the export trade, this is a very satisfactory figure indeed and clearly reflects the considerable local demand for building (see paras. 54-57). Royalty on forest produce realised the sum of \$442,574 (\$430,356) of the total revenue. Proceeds from the sale of timber by the Central Timber Manufacturing Plant are not counted as revenue from the forest and a full account of the trading position of this plant is given in para. 75 and in Appendix E.

EXPENDITURE

80. Expenditure under annually recurrent estimates amounted to \$366,123 (\$377,999), while that under development projects (capital estimates) totalled \$240,453 (\$241,360).

NET FINANCIAL POSITION

81. During the year there was a surplus of revenue over current expenditure of \$86,013 (\$58,286).

EXPORT AND IMPORT DUTIES

82. The figures of duty collected on greenheart exported and timber (softwoods) imported are not yet available.

STAFF AND LABOUR

STAFF

83. The disposition of staff at the end of the year was:-

C H A R G E	Senior Staff	Intermediate Staff	Subordinate Staff	Clerical Staff
Headquarters	4	-	5	7
Timber Yard (Central Timber Manufacturing Plant)	-	1	-	1
A.P.I. & Forest Surveys Division	1	-	7	-
Utilization Division	-	-	13	-
Silviculture and Research	-	-	5	-
Essequibo Division	-	1	26	2
Demerara Division	-	1	12	1
Berbice Division	-	1	18	2
North West Division	-	1	9	-
Study Leave	1	-	-	-
Vacant posts (b)	5	8	15	-
TOTAL STAFF	11	13	110	13

- NOTE: (a) FULL ESTABLISHMENT - 130 - excluding all clerical staff (now integrated with the Ministry).
- (b) Four Forest Rangers/Forest Guards acting in these posts (pending appointments) are already counted in A.P.I. & S. Division.

VACANT POSTS

84. The vacant posts at 31st December, 1968 were:-

- 4 Assistant Conservators of Forests
- 1 Mill Manager.
- 1 Assistant Utilization Officer
- 4 Forest Inspectors
- 3 Senior Field Assistants
- 6 Field Assistants
- 3 Forest Rangers
- 1 Drawing Office Assistant
- 2 Timber Technicians
- 2 Engineers - Grade II
- 1. Assistant Stores Clerk.

APPOINTMENTS

85. Messrs. C. A. John, Senior Assistant Conservator of Forests and D. H. Persram were appointed Deputy Conservator of Forests and Senior Assistant Conservator of Forests, respectively with effect from 26th November, 1968.

Mr. E. N. Daniels, Senior Forest Inspector was appointed Assistant Mill Manager with effect from 6th May, 1968.

Messrs. J. W. Peikle, and C. O. Baird, Forest Inspectors were appointed Senior Forest Inspectors with effect from 6th May, 1968 and 1st July, 1968 respectively.

Mr. W. F. Albert, Assistant Store-keeper, was appointed Stock Verifier and transferred to the Ministry of Work and Hydraulics with effect from 1st August, 1968.

Misses G. MacFarlane and J. Gainer (two daily paid female employees) were appointed Temporary Office Assistants with effect from 1st January, 1968.

NEW APPOINTMENTS

86. Mr. W. Peters was appointed a Class II Clerk in the Berbice Division with effect from 31st July, 1968.

Mr. G. Fraser was appointed a Boathand with effect from 17th September, 1968.

Mr. C. V. Apple was appointed a Grade II Engineer with effect from 27th December, 1968.

Miss J. Johnson was appointed Temporary Office Assistant in the Berbice Division with effect from 22nd July, 1968. She was subsequently transferred to Headoffice, Kingston with effect from 1st November, 1968.

TEMPORARY ACTING APPOINTMENTS

87. Mr. L. Wong, Forest Guard, was appointed to act temporarily as an Assistant Stores Clerk, Bartica with effect from 1st August, 1968.

With the retirement of Mr. L. S. Harry, Mr. E. N. Daniels began acting as Mill Manager with effect from 1st October, 1968.

SECONDMENT

88. Mr. W. E. Thom, Forest Guard, was seconded to the Elections Office as a Field Officer, with effect from 1st August, 1968.

RETIREMENT

89. Mr. J. E. Ferdinand, Senior Forest Inspector retired from the service with effect from 1st July, 1968.

TRANSFERS - FROM/TO OTHER DEPARTMENTS

90. Mr. O. Oudkerk, Departmental Class I Clerk was transferred from Medical Department with effect from 12th July, 1968.

Miss U. Anthony, Clerical Assistant, was transferred to Ministry of Information with effect from 3rd October, 1968.

VACATION LEAVE

91. Mr. W. E. Thom, Forest Guard, was granted 84 days' vacation leave with effect from 2nd January, 1968.

Mr. T. Trin, Boathand, was granted 84 days' vacation leave with effect from 1st February, 1968.

Mr. C. O. Jackson, Forest Ranger, was granted 219 days' vacation leave with effect from 2nd April, 1968.

Mr. R. A. Richards, Forest Ranger, was granted 128 days' vacation leave with effect from 1st June, 1968. At the expiration of this leave he applied for an extension of 22 months leave without pay.

Miss J. Srinarayan, Clerical Assistant, was granted 81 days' vacation leave with effect from 12th July, 1968.

Mr. B. E. M. Jefford, Forest Guard, was granted 84 days' vacation leave with effect from 1st October, 1968.

RESIGNATIONS

92. Mr. R. N. Boyan, Forest Guard, was interdicted from duty with effect from 15th February, 1968, but he subsequently resigned from the service.

Mr. M. S. Ranjit, Class II Clerk, resigned from the service with effect from 16th August, 1968.

Mr. G. McDonald Jackson, Forest Ranger, resigned from the service with effect from 30th September, 1968.

Mr. O. Greene, Forest Guard, resigned from the service with effect from 9th October, 1968.

Mr. G. P. A. Forbes, Deputy Conservator of Forests, resigned from the service with effect from *24th August 1968*.

Mr. E. J. Hamilton, Foreman Mechanic, submitted a letter dated 18th December, 1968 indicating his resignation with effect from 18th January, 1969.

VISITORS

93. Mr. C. Vernon Pereira - Trinidad Match Factory Ltd, Trinidad.
Mr. Ralph G. Stoute - Tugs & Lighters Ltd, Trinidad.
Dr. D. A. Boon - International Institute for Photo-
grammetry & Earth Sciences, Holland.
Prof. R. Antoine - University of Louvain, Belgium.
Leslie N. Aikman - Litton - Ecuador, Inc., California.
C. Gordon Murphy - Litton Industries Inc., California.
Richard J. Kaul - A. M. Todd Co., Michigan, U.S.A.
Jules Ponsinet - Byrant & May Ltd., London
Fiat Lux Co., Brazil

OBITUARY

94. It is with regret that we record the death on 30th June, 1968 of Mr. J. E. Ferdinand, M.B.E., Senior Forest Inspector. He passed away, after a very acute illness lasting several months, on the very eve of his retirement from the service. J. E. Ferdinand joined in the early forties and, by sheer merit, rose steadily to the rank of Senior Forest Inspector. He acted with credit as Divisional Forest Officer on several occasions. His ability and willingness to give of his best at all times coupled with a charming personality had endeared him to all ranks and his passing leaves a gap which will not be filled. We extend our deepest condolences to his widow and the rest of his family.

ACKNOWLEDGEMENTS

95. I wish to record my gratitude to all the numerous people - at home and abroad - who have, in various ways, given some assistance to the progress of forestry in Guyana during 1967. I would also like to thank and to commend the staff of the Forest Department for their hard work and willingness to do their utmost at all times for the benefit of the department.

L. ERNEST DOW
Conservator of Forests.
27th March, 1969.

FORM V

SUMMARY OF FOREST OFFENCES FOR THE YEAR ENDED 31ST DECEMBER, 1968

Category of Offences	Number of cases reported and Brought Forward	Cases taken to Court			Cases dealt with departmentally		Proceeds from sale of forfeited property	Total number of cases dealt with	Number of cases pending		
		Fined/Judgement	Cautioned and Discharged	Acquitted Withdrawn	Compounded	Cancelled					
1	2	3	4	5	6	7	8	9	10	11	12
			\$	¢			\$	¢			
1. Illicit felling of timber	20	-	-	-	-	18	1,000.00	-	1-20.00	19	1
2. Conveying forest produce without a Removal Permits.	20	-	-	-	-	18	245.00	-	-	18	2
3. Felling undersized trees.	7	-	-	-	-	6	233.00	-	-	6	1
4. Failing to submit a Permit within 24 hrs. after arrival at destination.	4	-	-	-	-	2	10.00	2	-	4	-
5. Failing to record forest produce on Removal Permit.	3	-	-	-	-	1	15.00	2	-	3	-
6. Selling forest produce before the Removal Permit is endorsed.	1	-	-	-	-	1	5.00	-	-	1	-
7. Felling protected trees without permission	1	1 ^(a)	-	-	-	-	-	-	-	1	-
8. Recovery of royalty	2	-	-	-	-	2 ^(c)	-	-	-	2	-
9. Erecting sawmill without permission	2	-	-	2	-	-	-	-	-	2	-
10. Operating a sawmill without a Licence.	2	2	200.00	-	-	-	-	-	-	2	-
11. Non payment of Compounding fees.	1	-	-	-	1	-	-	-	-	1	-
12. Non payment of royalty	3	2 ^(b)	280.71	-	1	-	-	-	-	3	-
13. Non payment of Minimum royalty	10	8 ^(b)	819.28	-	2	-	-	-	-	10	-
TOTALS	76	13	1,299.99	2	6	46	1,508.00	4	1-20.00	72	4

NOTES: (a) Logs forfeited - to be sold at auction. (b) Judgement obtained. (c) Settled out of court.

500

FORM V11

OUTTURN IN SOLID CUBIC FEET* OF TIMBER AND FUEL FOR THE
YEAR ENDED 31ST DECEMBER, 1968

Timber	Roundwood	Splitwood	Wood for Fuel	Wood for Charcoal	Total
7,376,111	76,938	32,591	734,200	241,650	8,466,490
(7,473,074)	(100,959)	(30,166)	(896,960)	(146,340)	(8,647,499)

NOTE:- *The equivalent of round timber in true measure under bark.

TIMBER:- Logs and wood sawn in the forest, and transmission poles.

ROUNDWOOD:- Shingles, paling and vat staves.

Figures in brackets are corresponding statistics for previous year 1967.

The equivalent of round timber in true measure under bark is obtained from the various units in the following manner:-

C A T E G O R Y	Unit	Conversion Factor
1. Logs (including transmission Poles)	cu. ft. Hoppus	x 5/4
2. Roundwood spars	lin. ft	÷ 100
3. Paling Posts	lin. ft.	÷ 5
4. Shingles	pieces	÷ 50
5. Paling Staves	pieces	÷ 12
6. Vat Staves	lin. ft	÷ 25
7. Sawn timber	ft. B.M.	÷ 6 x 5/4
8. Firewood	tons	x 40
9. Charcoal	tons	x 270

FORM LX (a)

PRIMARY FOREST INDUSTRIES, 1968

Particulars of Industry	Quantity of Wood (Home grown or imported) consumed in cu.ft.(Hoppus) (i)	No. of persons employed (ii)
Sawmills	4,992,356	2,441
Match Factory	85,020	184
TOTAL	5,067,376	2,625

NOTE:

- (i) These figures are based on those supplied by the industry concerned.
- (ii) These figures are rough estimates only and are not based on a census.

GENERAL:- Value of outturn ex-factory is not available.

FORM LX (b)

LABOUR

No. of Persons Employed

C A T E G O R Y	Essequibo Division	Demerara Division	Berbice Division	North West Division	TOTAL
Logging - (1) Crown Forest Leases	1,504	334	200	80	2,118
(2) Crown Forest Permissions	100	-	300	270	670
(3) Amerindian Permits	-	27	-	-	27
Sawmills and Sawpits	437	828	275	85	1,625
Match Factory	-	184	-	-	184
Charcoal	60	29	48	1	138
Wallaba Transmission Poles	50	100	-	-	150
TOTAL	2,151	1,502	823	436	4,912

SUMMARY IN DOLLARS OF REVENUE AND EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER, 1968

REVENUE			EXPENDITURE									Special Non-Re- current	Grand Total	Surplus
Royalty on Forest Produce	Other Forest Revenue	Total	Annually Recurrent											
			Personal Emolu- ments	Travel- ling	Other Adminis- trative charges	Equip- ment & Materials	Research and Investi- gations	Silvi- culture	Promo- tion of Exports	Miscel- laneous	Total Annually Recurrent			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
442,574	9,562	452,136	268,903	35,539	37,897	4,192	4,042	9,983	986	4,581	366,123	-	366,123	86,013

Column 2 - Revenue from Fees, licences, fines, compounding fees and seizures.

Column 6 - Other Administrative Charges:-

Sub-heads - Miscellaneous
Land & Water Transport
Uniforms
House Rent
Revenue Protection
Forest Surveys.

Column 11 - Miscellaneous:-

Sub-heads - Creek Clearing
Forest Stations
Contributions - Commonwealth Forest Institute, Oxford
Contributions - Latin American Forest Research & Training Institute

NOTE: Revenue and expenditure in connection with the Central Timber Manufacturing Plant are given at Appendix (E)

DEVELOPMENT EXPENDITURE IN DOLLARS FOR YEAR ENDED 31ST DECEMBER, 1968DIVISION XII FOREST DEPARTMENT

S C H E M E	Expenditure to 31.12.68		Total Development Expenditure
	Specific Finance	Other Finance	
1. Forest Industries Development Survey	-	\$ 216,140	\$ 216,140
2. Central Timber Manufacturing Plant	-	24,313	24,313
TOTAL		\$ 240,453	\$ 240,453

FORM X11

COMPARATIVE STATEMENT IN DOLLARS OF REVENUE AND EXPENDITURE (FROM FOREST DEPARTMENT VOTES) FOR THE TEN YEAR PERIOD ENDED 31ST DECEMBER, 1968

	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
Revenue	429,766	436,815	430,674	431,821	295,939	377,261	396,650	480,051	439,438	452,000
Expenditure	281,816	353,505	360,691	383,455	318,641	314,068	353,506	352,402	381,152	366,000
Surplus + / Deficit -	+147,950	+83,310	+69,983	+48,366	-22,702	+36,193	+43,144	+127,649	+58,286	+86,000

1968

APPENDIX A

- Balata:** The coagulated latex of the tree *Manilkara bidentata* used in the manufacture of machine belting.
- Bateau:** a round bottomed, stemless boat with rising keelson.
- Division:** a major administrative unit, in the charge of a senior officer.
- Forest Station:** the headquarters of any forest administrative unit, comprising officers' quarters, office accommodation, store-room, boathouse, etc.
- Hoppus measure:** the volume of round timber obtained from the formula:-
- $$\frac{(\text{girth})}{4} \times \frac{(\text{girth})}{4} \times \text{length}$$
- Particle Board:** a material made by consolidating a mixture of wood particles (in the form of chips, shavings or sawdust) and glue into boards or sheets with pressure and heat.
- a minor administrative unit, in the charge of a subordinate officer.
- Regeneration:** the renewal of a forest crop by natural or artificial means.
- Seasoning:** the drying of timber, under suitable conditions, before use.
- Wood pulp:** wood fibres which have been separated by chemical or mechanical means and used for making paper, textile and many other products derived from cellulose.

APPENDIX B
RAINFALL (in inches) 1968

Locality of Guage	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
ESSEQUIBO DIVISION													
1½ miles Bartica/Potaro Road	14.31	6.80	7.94	9.64	14.37	10.80	11.17	7.84	7.18	7.12	17.23	10.92	125.32
Penal Settlement	10.04	4.77	5.82	6.72	12.15	11.08	11.29	5.23	6.40	6.52	14.00	8.61	102.63
72 miles Bartica/Potaro Road	8.81	3.88	3.29	(		Figures not available			)	6.52	4.36	8.74	—
Wineperu	8.15	6.00	5.95	12.05	7.60	11.80	11.80	13.73	4.60	5.98	9.00	8.75	105.41
Pickersgill	4.46	8.90	5.81	9.49	11.95	18.75	8.07	5.23	4.83	11.98	9.94	15.76	115.17
DEMERARA DIVISION													
Ituni	11.82	1.84	4.57	9.37	18.83	10.23	8.68	6.81	2.25	1.29	(no record)		—
Vreed-en-Hoop	5.29	8.88	8.60	13.04	7.77	18.51	9.15	4.58	4.64	3.14	7.53	7.06	98.19
Georgetown (Botanical Gardens)	5.49	8.57	7.31	10.30	8.19	17.41	10.28	3.79	4.53	3.61	7.92	5.35	92.75
Mahaicony (Railway)	5.08	5.21	5.95	9.00	6.80	14.52	13.58	3.86	4.65	3.89	7.12	3.79	83.45
Mahaica (Hospital)	8.56	8.89	6.81	11.43	12.19	13.68	9.23	3.18	6.79	.77	12.34	4.22	98.09
Atkinson Field	(no record)			9.60	7.91	18.27	12.90	6.92	5.42	3.64	11.25	5.21	—
Mackenzie	12.78	5.34	6.43	10.19	10.69	14.12	7.55	9.43	6.36	4.93	(no record)		—
BERBICE DIVISION													
New Amsterdam	10.87	6.29	7.31	4.94	8.79	11.98	8.32	1.91	2.70	.66	4.46	3.95	72.18
Skeldon	14.75	10.26	3.92	8.73	4.95	8.14	6.01	4.13	2.01	2.54	4.03	1.34	70.81
Rose Hall	12.31	6.97	6.73	6.35	10.44	12.57	10.42	2.68	2.48	.92	4.99	2.83	79.69
Siparuta	14.00	6.12	5.29	11.25	8.37	9.07	7.84	3.80	3.16	(no record)		—	—
Springlands	15.00	11.00	4.88	8.56	4.95	7.89	5.29	3.29	2.18	2.99	4.24	1.82	72.09
NORTH WEST DIVISION													
Hosororo	Figures not available												
Wauna	Figures not available												
Moruca	Figures not available												

PRODUCTION OF TIMBER FROM GOVERNMENT FORESTS IN 1968

(a) Logs, splitwood and roundwood

Name	Botanical Name	Volume to nearest 100 cu.ft. Hoppus	Royalty to nearest \$10.00 (G)	Main Uses
1. Greenheart	Ocotea rodiaei	3,653,700	292,300	1 (Export trade) 5,6,8, 10 (vat bottoms)
2. Kabukalli	Goupia glabra	293,000	14,650	5,6
3. Wallaba	Eperua spp.	280,200	13,630	2 (Export trade) 3,9,19.
4. Kereti	Ocotea spp.	274,800	13,740	7,11,13,16.
5. Crabwood	Carapa guianensis	267,300	21,380	5,6,7,8,13.
6. Purpleheart	Peltogyne spp.	243,300	19,460	5,6,8,13.
7. Mora	Mora excelsa	225,800	11,290	4 (Export trade)
8. Tauroniro	Humiria balsamifera	104,900	5,250	5,6,8.
9. Simarupa	Simaruba amara	64,200	3,210	7,11,16.
10. Dalli	Virola surinamensis	50,500	1,520	7,11,18 (log-export trade)
11. Dukali	Parahancornia amapa	50,300	2,520	7,11,16,18.
12. Kirikaua	Iryanthera lancifolia	55,200	2,760	7,11,16.
13. Karahoro	Didymopanax morototoni	37,000	1,110	17 (Splints)
14. Duka	Tapirira marchandii	36,400	1,100	7,11,17 (Boxes)
15. Locust	Hymenaea spp.	28,100	1,410	5,6,8,13.
16. Kurokai	Protium decandrum	26,100	1,310	7,13.
17. Silverballi (Brown & Yellow)	Aniba and Licaria spp.	25,500	2,040	7,11,13,15,16.
18. Shibadan	Aspidosperma album	25,100	1,260	11.
19. Tatabu	Diplostropis purpurea	23,000	1,150	5,15,14,15.
20. Wamara	Swartzia leiocalycina	20,300	1,020	5,6,7,13.
21. Manniballi	Moronobea coccinea	16,400	820	5,12,14.
22. Hububalli	Loxopterygium sagotii	12,500	630	13,18.
23. Manni	Symphonia globulifera	10,600	530	5.
24. Cedar, White	Tabebuia insignis var.	10,100	300	7,8.
25. " , Red	Cedrela odorata	8,300	660	13.
26. Suya	Pouteria speciosa	7,700	390	7,16.
27. Futui	Jacaranda copaia	6,900	210	11,16.
28. Pakuri	Platonia insignis	6,400	320	5,6,7,8.
29. Baromalli	Catostemma spp.	5,900	180	16.
30. Bulletwood	Manilkara bidentata	4,400	350	4,5,12,14.
31. Kurahara	Calophyllum lucidum	3,900	200	7,13.
32. Dukuria	Sacoglottis spp.	3,200	160	11,16.
33. Ulu	Trattinickia spp.	2,800	80	7,16.
34. Fukadi	Terminalia spp.	2,200	110	5.
35. Baradan	Ocotea tomentella	2,100	60	11,16.
36. Determa	Ocotea rubra	2,000	100	6,7.
37. Other Species	----	29,100	1,100	—
TOTAL		5,919,200	\$418,320	

APPENDIX C Cont'd

(b) Sawn Lumber*

C A T E G O R Y	Volume to nearest 100 ft.b.m.	Equivalent Volume to nearest 100 cu. ft. Hp.	Royalty to nearest \$10.00
Class 1	33,300	6,900	\$ 400
Class 11	402,500	83,900	3,220
Class 111	3,600	800	10
TOTALS ..	439,400	91,600	\$ 3,630

(c) Other Products

Wattles	13,191 pcs.	20.00
Mangrove Bark	476,687 lbs.	<u>240.00</u>
TOTAL		<u>260.00</u>

NOTE: * Lumber produced in sawpits, royalty being paid on the sawn volume and not on the round log.

KEY TO USES

- | | |
|---|---------------------------------------|
| 1. Piles and other marine uses. | 10. Cooperage (Tanks, tubs and vats). |
| 2. Transmission poles. | 11. Boxes, crates and shooks. |
| 3. Paling posts, staves
(stakes) vat staves. | 12. Bridges and culverts. |
| 4. Railway sleepers. | 13. Furniture and cabinet ware. |
| 5. Framing (including rafters). | 14. Wheelwright work (carts etc). |
| 6. Walls (exterior sheathing). | 15. Boat building. |
| 7. Walls (interior partitions). | 16. Concrete shuttering. |
| 8. Floors. | 17. Matches. |
| 9. Shingles. | 18. Plywood. |
| | 19. Particle-board. |

APPENDIX D

PRICES RANGES IN 1968 FOR THE MAIN TIMBER SPECIES AND OTHER FOREST PRODUCTS -

(i) TIMBER

S P E C I E S	Timber at Mill (Price in cents per cubic foot)				Lumber ex Mill (Price in cents per board foot)			
	Place	Minimum	Place	Maximum	Place	Minimum	Place	Maximum
1. (a) Greenheart (Hewn Squares)	Bartica	1.00	Bartica	2.00	Paradise	.16	New Amsterdam	.31
(b) " (Round Piling)	Bartica	.40	Bartica	1.00	-	-	-	-
(c) " (Local)	Pomeroon	.30	New Amsterdam	1.10	-	-	-	-
2. Mora	Waini	.10	Springlands	.60	Barima/Aruka	.10	-	.24
3. Crabwood	Aruka/Barima	.26	Springlands/ Siparuta	.95	Paradise	.12	Soesdyke	.28
4. Dalli	Pomeroon/Waini	.10	New Amsterdam	.36	Aruka/Barima/Waini	.08	New Amsterdam	.20
5. Kereti	Waini	.12	Siparuta	.85	" "	.12	Springlands	.75
6. Purpleheart	Paradise	.28	"	.80	Paradise	.18	New Amsterdam	.31
7. Kirikaua	Aruka/Barima	.16	Aruka/Barima	.22	Barima/Aruka	.12	Barima/Aruka	.18
8. Kabukalli	" "	.15	Siparuta	.75	Aruka/Paradise	.14	Parika/Georgetown	.24
9. Karohoro	" "	.08	Parika	.36	" /Barima	.08	Georgetown	.12
10. Kurokai	" "	.15	Supenaam	.46	Waini	.10	Bartica	.20
11. Duka	" "	.06	Parika	.36	Bartica	.10	"	.14
12. Tauroniro	Pomeroon	.20	Siparuta	.75	Paradise	.14	Parika	.24
13. Simarupa	Aruka/Barima	.15	Siparuta	.75	Waini	.08	Georgetown	.24
14. Silverballi, Brown & Yellow	Paradise/ Springlands	.18	Supenaam	.68	Paradise/ Springlands	.18	Parika	.40
15. Locust	Georgetown	.36	"	.64	Bartica/Supenaam	.18	"	.24
16. Manniballi	"	.36	"	.46	" "	.18	Georgetown	.24
17. Dukali	Aruka/Barima	.14	Georgetown	.42	Aruka/Barima	.10	Bartica	.26
18. Shibadan	Supenaam	.36	Parika	.48	Supenaam	.16	Parika	.24
19. Tatabu	Georgetown	.36	Supenaam	.50	Supenaam	.18	Parika	.24

629

APPENDIX D (Cont'd)

PRICE RANGES IN 1968 FOR THE MAIN TIMBER SPECIES AND OTHER FOREST PRODUCTS -
(ii) OTHER FOREST PRODUCTS

FOREST PRODUCTS	Location	Price (Minimum)	Location	Price (Maximum)	Per Unit
Wallaba Transmission Poles	Siparuta	\$.80	Siparuta	\$ 1.00	Lin. ft.
Wallaba Posts 3"-6" Diameter	Paradise	.04	Parika	.12	" "
Wallaba Posts 6"-10" Diameter	Springlands	.10	New Amsterdam	.12	" "
Wallaba Paling Staves	Paradise	4.00	Parika	12.00	100
Wallaba Shingles	Bartica	10.00	Bartica	80.00	2,000
Firewood	Paradise	3.00	New Amsterdam	15.00	ton
Charcoal	Paradise	2.00	New Amsterdam/ Bartica.	4.00	cwt.
Mangrove Bark	Waini	1.50	Waini	1.50	100

CENTRAL TIMBER MANUFACTURING PLANT TRADING ACCOUNT FOR THE YEAR 1968

PARTICULARS		AMOUNT	TOTAL AMOUNT	PARTICULARS		AMOUNT	TOTAL AMOUNT
Stock on hand 31.12.67		\$	\$	SALES		\$	\$
Rough Sawn	552,289 ft. bm.	114,323.82		Rough Sawn	113,070 ft. bm.	26,684.52	
Dressed	225,184 " "	56,296.00	170,619.82	Dressed	623,711 " "	197,800.93	224,485.45
Timber Purchases 1968:				Proceeds on Dressing by Contract			368.36
	829,624 Ft. bm.	151,821.19	151,821.19	STOCK ON HAND AT 31.12.68			
Expenses - 1968		110,419.32	110,419.32	Rough Sawn	776,393 ft. bm.	159,160.56	
				Dressed	97,744 " "	24,436.00	183,596.56
				Loss on Trading			24,409.96
TOTAL			\$432,860.33	TOTAL			\$432,860.33

APPENDIX E (ii)

CENTRAL TIMBER MANUFACTURING PLANT STOCK STATEMENT FOR THE YEAR 1968

PARTICULARS	Rough			Dressed			Total Amount \$		
	Ft.	Em.	Rate ¢	Amount \$	Ft.	Em.		Rate ¢	Amount \$
Stock at 31.12.67	552,289		20.7	114,323.82	225,184		25	56,296.00	170,619.82
Purchases 1968	829,624		18.3	151,821.19	-		-	-	151,821.19
TOTAL	1,381,913		19.3	266,145.01	225,184		25	56,296.00	322,441.01
Less Issues to Mill	516,591		19.3	99,703.06	-		-	-	-
BALANCE	865,322		19.3	166,441.95	225,184		25	56,296.00	-
Plant Production	-		-	-	503,389		25	-	-
TOTAL	865,322		19.3	166,441.95	728,573		-	-	-
Less Sales 1968	113,070		23.6	26,684.52	623,711		31.7	197,800.93	224,485.45
BALANCE	752,252		-	-	104,862		-	-	-
Stock on hand 31.12.68	776,393		20.5	159,160.56	97,744		25	24,436.00	183,596.56
Difference + or -	24,141		-	-	7,118				

115

UNSF FOREST INDUSTRIES DEVELOPMENT SURVEYPROJECT

1. The objects of this project are to provide the authorities responsible for forestry and forest industries development with adequate information on:-

- (i) the extent and composition of the accessible forests of the country;
- (ii) the most suitable methods of extracting, processing and marketing those commodities which it is found possible and economic to produce from the forest resource.

It must be emphasized that this project contains a step-by-step plan for assessing, evaluating and developing the present productivity and future potential of the forests. It will not provide a cure for the physical disadvantages of the forests, but will show clearly what these are and show how best they can be circumvented or overcome, if it is at all possible to do so.

2. In particular, the project will assist the Forestry Department to formulate and implement specific forest industry development plans by:

- (a) Evaluating all previous and current survey work related to the forest resources, complementing these results where required for the accessible forests by a low intensity forest reconnaissance survey and selecting the most suitable areas for detailed forest inventories,
- (b) Determining the extent and composition of the forests of the selected priority areas through detailed forest inventories.
- (c) Developing suitable methods for extraction of logs and production of lumber.
- (d) Drawing up detailed management plans for selected areas.
- (e) Formulating plans and procedures for marketing forest products locally and on external markets; and
- (f) Investigating the technical and economic feasibility of establishing forest industries including bulk-processing such as pulp and paper.

3. It is envisaged that the key to the final development of the lumber industry will be the Forest Department's Central Timber Manufacturing Plant and a strong marketing organization. These branches will, therefore, be given special assistance e.g. drying kilns, wood preservation plants, wood working facilities of all suitable types will be added to the Central Timber Manufacturing Plant. In addition full studies will be made of the possibilities of veneer, plywood and furniture manufacture.

4. Mention has already been made, in the main text, of the work of certain sections of this project (i.e. inventory - paras. 16-21; sawmilling - paras. 40-43; wood seasoning and preservation - para. 43; lumber yard - paras. 71 et seq.) A summary of the work of other sections is given below.

Forest Products Marketing

5. A revised edition of the report on the Caribbean Forest Products Survey was distributed in Guyana and the islands. The marketing officer assisted the Export Consortium to finalize the grading rules on greenheart (mostly his work - based upon the Malayan Grading Rules) and also to make certain

investigations of the North American market for greenheart. He also visited Mexico and submitted a report on the timber marketing possibilities (especially for transmission poles) in that country. At year-end he handed in his terminal report and left the project on re-assignment to U.N.S.F. in New York.

Management and Logging

6. The main work of the year has centred around the field studies and preparation of an overall logging plan for the area of forest which would be affected by the proposed Tiboku Hydro-electric Project, Mazaruni River (see also para. 20) and, especially, by an access road from Rockstone on the Essequibo to Tiboku on the Mazaruni River. This area already includes the main timber concessions and further detailed logging studies were made with the assistance of two major logging companies. In addition, a logging plan was prepared for the first working area designed to be used by the portable sawmill (para. 43). Advice was given to logging companies with regard to enabling them to improve their logging operations.

Forest Economics

7. The assignment of the forest economist was terminated in May, 1968, and he has submitted his terminal report.

Fellowships

8. In June, the Utilization Officer, Forest Department, proceeded upon a fellowship in the United States, Canada and Puerto Rico. He returned home in December but is due for further training in Malaysia and Papua - New Guinea (latter in diffusion impregnation) early in 1969.

Counterpart Staff

9. As far as the government of Guyana is concerned this is the most worrying and unsatisfactory aspect of the project - but one about which it can do nothing. All of the professional officers of the Forest Department are as fully committed as possible to working along with the project but with resignations and shortages - and the Forest Department to administer - there are simply not enough men to allow the provision of one-for-one counterpart staff. The progress of the project is, however, not being affected.