

G U Y A N A

ANNUAL REPORT

OF THE

FOREST DEPARTMENT

FOR THE YEAR

1972

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C O N T E N T S

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L. ERNEST DOW, M.A., RETIRES AS CONSERVATOR OF FORESTS.

On December 6, 1972 Mr. Lionel Ernest Dow, Conservator of Forests proceeded on pre-retirement leave. He elected to retire from the Public Service at the early age of 50 years.

Born in New Amsterdam, Dow received his early education at the Berbice High School and, later, at Queen's College where he subsequently served as a Master. He was the first Guyanese selected (1948) for forestry training overseas and graduated from Oxford with the B.A. degree. Some years later, the M.A. degree was conferred on him.

Mr. Dow was appointed an Assistant Conservator of Forests in 1953 and during his term of office, as Divisional Forest Officer Berbice, he conceived the idea of organising the numerous small loggers (mainly Amerindians) in the Berbice River into cooperative groups. The accomplishment of this objective was no easy task considering the fact that these loggers were what he termed "staunch independents."

In 1959 Dow was appointed Deputy Conservator of Forests and in the following year he became the first-ever Guyanese Conservator of Forests. He has given twenty years of loyal, dedicated service to the Government of Guyana.

Dow was a firm believer in the welfare of his staff and he stood by them and for their cause whenever he thought it was the proper thing to do.

During the latter years of his professional life he was associated with the UNDP/GUYANA: Forest Industries Development Survey (1966-70) for the duration of which, he served as co-project manager.

In addition to attending many international forestry and associated conferences he was a member of the recent Guyana Trade Mission to the People's Republic of China one result of which is the development of an export trade in logs to that country- an exercise to which he gave his personal attention. He was member of the Commonwealth Forestry Association and also its local Honorary Secretary. He was also a Director of Guyana Timbers Ltd.

Less than twenty years involvement in the decidedly long-term discipline of forestry might, perhaps, appear rather short, but Dow has put into these years a lifetime of dedicated, tireless application. Before he finally bowed out, he saw one of his cherished dreams come true - the establishment and operation of the mobile sawmill in the forest.

Let us hope that he will continue to devote his energies to the cause of forestry and that he will enjoy a happy retirement which he fully deserves. We shall miss him, his good wife, and his two children but we hope that the extra time he now has on his hands will be devoted to his loved ones in a measure which, due to his erstwhile devotion to his work, was not possible while he was Conservator of Forests of the Cooperative Republic of Guyana.

Obituary

The death occurred in Ethiopia on 11th April last of Mr. Christopher Swabey, C.M.G. as a result of injuries received in a motor accident in that country. Mr. Swabey succeeded the late B.R. Wood as Conservator of the then British Guiana Forest Department from 1946 - 1952.

During his regime a start was made to revise the forest law so as to give the Forest Department control of the administration of the forest estate which was at that time administered by the Department of Lands and Mines. He organised the department into the present set up of four territorial and two specialist divisions and the first staff quarters and offices were constructed at out-stations. He was directly responsible for issuing the first statement of Forest Policy and for promulgating the award of the first scholarship to a local candidate for training in forestry abroad - incidentally the present Conservator of Forests, Mr. L. E. Dow.

GENERAL REVIEW

The most noteworthy features of the year 1972 vis-a-vis forestry are as follows:

- (1) A mobile (portable) sawmill was bought by Government and installed near Wineperu. The objectives of this exercise are as follows:
 - (a) To saw defective trees which were left standing by loggers.
 - (b) To saw species of timber which loggers could not market profitably.
 - (c) To boost the intake of lumber at the Central Timber Manufacturing Plant so that more lumber of lesser-known species can be made available to the public.
- (2) For the first time Government entered into trading relations with the People's Republic of China for the supply of over one million cubic feet of logs comprising a wider range of species than were ever exported before.
- (3) Government embarked on the installation of a timber-drying kiln at the Central Timber Manufacturing Plant. This kiln is expected to reduce the drying time of lumber from 7 months to 6 weeks.
- (4) Keen interest was shown by several foreign concerns for investing in the timber industry.
- (5) Government acquired the assets of the largest timber firm in Guyana viz. Guyana Timbers Limited.

A project for planting 1,000 acres of *Pinus caribaea* was started.
- (7) A photo-interpretation key for the identification of forest types of Guyana was published by the Forest Department.

FOREST POLICY AND LEGISLATION

FOREST POLICY

2. The basic 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 a sustained yield.
- (iii) To increase production from the forest, 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.
- (vii) To participate actively and directly in the exploitation of the forest resource.

3. During 1970, the government of Guyana had declared its intention to participate directly in the future - and - expanded - exploitation of the forest resources of the country (See Annual Report, 1970 - para. 3). It is obvious that government will, indeed, have to take the lead in this development if greater use is to be made of the forests and they are to make a worthwhile contribution to the development of Guyana. Pursuant to this, in 1971, further decisions have been taken and plans have been drawn up - as will be related in the course of this report. Two important decisions, however, announced by the Minister at the end of 1971, will have considerable import on the future of forestry and these are:-

- (1) A Forest Industries Development Corporation would be established to take charge of and be responsible for instituting the systematic development of the forest resource.

- (2) A Timber Marketing Board would be set up - representative of both the public and private sectors - and given the task of regulating and expanding the exports of timber and forest products.

LEGISLATION

4. No new forest legislation was enacted but, working with the Law Revision Commissioner, the Forest Department put up the draft of the amendments necessary to bring the forest laws up-to-date. These will eventually be put before the House together with the main body of revisions.

THE FOREST ESTATE

5. The State Forests of Guyana cover an area of approximately 29,205 square miles and are all situated north of the 4th parallel (4°N). They are composed of two blocks - the smaller being an area of only 205 square miles between the Demerara and Mahaica Rivers. The larger block covers an area of approximately 29,000 square miles and comprises about 70% of the area of Guyana north of the 4th parallel. Within it are found all of the major and majority of the smaller logging leases and concessions.

6. Outside of the State Forests - to the north - east, and south - lie the State Lands which contain, approximately, a further 41,000 square miles of forests. The region to the south is generally inaccessible and most of it will remain beyond the reach of commercial logging until these areas are opened up by roads and settlements. As reported in 1970, a part of this area, south of the Potaro River, left bank Essequibo River has now been opened to logging and steps are, therefore, being taken to bring it under the control of the Forests Ordinance and Regulations.

7. In the north-east of the country (i.e. between the lower courses of the Essequibo and Corentyne Rivers) there are logging operations within the State 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 State Lands are to be found many areas of possible use for the large-scale introduction of fast-growing exotic species.

8. As the extent of the forest is thus simply described, Standard Forms 1 and 11 have been omitted from this report.

ADMINISTRATION AND MANAGEMENT

9. The Forest Department operated for its second full year under the newly created Ministry of Mines and Forests. It is already obvious that by freeing it from the inertial drag of its natural rival (Agriculture) there has been progress which would, previously, have been impossible. However, closer 'integration' with a Ministry, which is physically separated from the Forest Department, introduces many day-to-day problems in its administration which will have to be solved if the overall gain is to be secured and the actual work of the department improved or enhanced.

10. Fortunately, though still down on the strength of Assistant Conservators at year-end (three posts out of six filled) - the numbers of field and range staff were well maintained during 1972. The problems, which have for many years beset the department because of the lack of senior clerical, accounting, and administrative staff within the department, continue to be acute and to cause a considerable waste of time and frustration among technical officers.

11. The distribution and area of State Forest leases at the end of 1972 were as follows:-

A C R E A G E	NORTH WEST DIVISION	ESSEQUIBO DIVISION	DEMERARA DIVISION	BERBICE DIVISION	TOTAL
Under- 500		2			2
501- 3,000		8		1	9
3,001- 10,000		3		3	6
10,001- 50,000		6	2	7	15
Over- 50,000		6	2	1	9
TOTAL NUMBER		25	4	12	41
TOTAL ACREAGE		2,317,850	182,500	227,340	2,727,690

12. There was no significant change in either the nature or number of leases in operation when compared to 1971. Some leases which had expired during 1971 were renewed in 1972 but similarly, some which had expired in 1972 had not yet been renewed by year-end. This is due to the fact that renewal is not automatic. All cut-lines, which are boundary-lines, must be re-demarcated and surveyed, and all outstanding fees- royalty, minimum royalty and surveying fees - must be paid off before the new lease is issued. In addition applicants have to submit their income tax Certificate of Compliance.

13. A total of 3,087 (826) non-exclusive permissions to cut specific quantities of forest produce was issued in 1972. The considerable increase in numbers from the previous years (1,187 in 1970) has been due to the greater demand for logs by the saw-millers who, in turn, found larger markets locally and in the West Indies. More significant, however, was the order for nearly one million cubic feet of logs which the Government, through the Guyana State Corporation (Guystac), received from the Peoples' Republic of China. As the species in the order/contract were within relatively easy reach of loggers, the latter took the opportunity to supply.

14. 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 data necessary for planned management. The system of block-working continues to be operated in some of the bigger leases. This system, however, leaves much to be desired, being very difficult to enforce consistently. The inventories and economic studies which were carried out under the UNSF/Guyana Government Forest Industries Development Survey have clearly demonstrated (by firm figures) the absolute need for more complete exploitation of the forests. Such operations will, of necessity, require to be based upon proper felling plans which will have to include the use of the lesser known species and it is heartening to report that the department's efforts, over the years, to encourage the use of all worthwhile species, appear, at least, to be achieving some success.

15. Enquiries have been made concerning the exploitation of the natural resources on a major scale at the industrial level. One foreign firm sent representatives to make a preliminary investigation with a view to investment in sawmilling and veneer production.

Aerial Photo-Interpretation & Mapping

16. Work continued during the year on the interpretation of photographs in the Pakaraima region, in order to produce forest type maps for the entire area. This work has been seriously interrupted due to the shifting of staff over to duties involved with the China Order.

Aerial Photos

17. A total of 746 aerial photographs were purchased from Terra Surveys Ltd. of Canada. These photographs cover the eastern part of the Bartica Triangle, and the Essequibo-Demerara watershed from Wismar -Rockstone South to Kurupukari.

18. The filing system for aerial photos has been completely reorganised and most of the stock of photos has been filed away according to the new system.

Photo-Interpretation Key

19. The text and stereograms for the Key are complete. Over one hundred copies of the text were roneoed and the stereograms inserted. Four pages of illustrative matter were sent to the printers who were to make plates, print the covers, and bind the 100 copies. Because of mechanical problems these things were not yet completed at the end of the year.

- 20. The Key contains 22 stereograms illustrating a variety of vegetation types over the entire country. There are also summaries in Portuguese and Spanish.

Forest Surveys

21. No inventories or reconnaissance Surveys were carried out during the year.

Investigation and Research

22. Work continued on the problems of volume and defect assessment. During the last quarter of the year, with the Mobile Sawmill at Wineperu being fully operational, about 400 trees of various species were selected for study.

23. The main points of the study were:-

- (a) To compare assessed volume of the standing tree with actual felled volume.
- (b) To compare the defect assessment obtained by boring with actual defect using the merchantable standards of the Mobile Sawmill.
- (c) To obtain lumber output in relation to input volume.

24. The felling, measuring and converting of logs was still in progress at the end of the year, but it is possible at the present time to draw the following tentative conclusions.

- (a) The boring technique for assessing internal rot as developed during the United Nations Forest Industry Surveys program (1966-1970), in general tends to underestimate greatly the diameter of the rotten inner core. This is due to the fact that the full extent of heart-rot which is the most prevalent type of rot, cannot be properly assessed by drilling except in its terminal stages when the tree is completely hollowed out.
- (b) A tree of 12" or 13" D.B.H. can scarcely be considered a merchantable tree for lumber production, using a circular saw, since 50% or more of the upper part of the bole cannot be economically converted due to small girth.

25. The problem of proneness to heart rot in the Caesalpinaceae due to changes in the nature of the chemical extractives (see 1971 Annual Report paras. 22-23), could not be taken up by Dr. Walcott of the University of Guyana during the year, because of his involvement with another Forest Department project. He hopes to be able to turn his attention to the chemical extractives in the heartwood of some of our more important timber trees during 1973.

COMMUNICATIONS

Road Vehicles

26. The department's fleet of road vehicles was strengthened by the addition of a new long base landrover which was purchased for use by the Silviculture division.

Waterways

27. No major operation of creek clearing was necessary or undertaken. The Haiama creek was cleared to facilitate access to the *Pinus caribaea* plantations on the left bank Demerara River.

Boats

28. The fleet of boats was maintained throughout the year without any serious problems. Both staff and boats especially the Boston Whalers were kept very busy in the procurement of logs for the China Order. The cabin cruiser could not have been launched because of certain engineering works that had to be done. It was hoped that would be launched early in the new year. The name given to it is "Banyaballi 11".

Engines

29. The mechanical staff were fully occupied throughout the year servicing the department's engines, both marine and terrestrial. The year saw a definite shift from Archimedes out-board engines to high-powered Chrysler engines. The Foreman-Mechanic conducted training sessions on the servicing, maintenance and operation of these Chrysler engines.

30. As has been reported over the years the Forest Department continued to assist other government departments by the loan of boats and crews in times of need. This service we happily undertook in the interest of the development of the interior and the welfare of the people in those areas.

Radio Communications

31. The radio communications network proved to be of inestimable value particularly with regard to the China Order for logs. With transmitting sets at New Amsterdam, Georgetown, Mabaruma, Bartica, Siparuta, Paradise and Supenaam, communications with these stations was possible on every working day. Had it not been for these sets there would have been great difficulty in supplying logs to China.

Buildings

32. The building to accommodate the low temperature drying Kiln (Moore) was completed by year-end and was awaiting installation of the boiler and other ancillary equipment.

Protection

33. A total of 37(51) forest offences was brought forward from 1971 or reported during 1972 (see Form V), and all were dealt with during the year, yielding a revenue of \$1,541 (\$904) in addition to royalty on the forest produce concerned.

Silviculture

34. The Silviculture and Research Division continued its programme aimed at achieving the following objectives viz:-

- (1) Obtaining as much information as possible on growth and yield of Pinus caribaea on varying soil and site conditions.
- (2) Finding the optimum conditions for growth and production of Pinus caribaea seedlings by experimentation in the nursery.
- (3) Studying the growth and tolerance to local climatic conditions of fast growing exotic species on treated plots and controls.

- (4) Finding as many species that would produce an acceptable grade of pulp.
- (5) Testing Gmelina arborea for production of match sticks.
- (6) Providing employment for residents in the near interior.

Administration

35. The S.A.C.F. responsible for Silviculture and Research was appointed to act as Deputy Conservator of Forests with effect from 1st March, 1972. As there was no A.C.F. available to fill the vacancy so created, the S.A.C.F. continued to be in charge of the Silviculture and Research Division until the end of the year.

36. With the very small allocation of \$15,000 - (\$50,000 in 1970) the volume of work that was desirable has to be tailored to meet the funds available. Nevertheless, the work started in 1970 and 1971 continued and the following has been achieved.

Plantations

37. Twenty-eight acres of Pinus caribaea var. hondurensis were planted at Kairuni Creek on a mixture of brown and grey sands.

In addition small plots of exotics were laid out as follows.

<u>Species</u>	No. of Trees
<u>Albizia falcata</u>	966
<u>Hibiscus elatus</u>	207
<u>Dedrela mexicana</u>	61
<u>Swietenia mahogani</u>	90
<u>Swietenia macrophylla</u>	32
<u>Anthocephalus cadamba</u>	26

Investigations and Research

38. The following experiments were conducted.

- (1) Exp. Plot No. 28/72. To test the response of Gmelina arborea to 4 levels of N.P.K. 15:15:15: viz 0,1,2,3 ozs per plant at Kairuni Creek at 7' x 7' spacing.
- (2) Exp. Plot No. 29/72. To test the response of Gmelina arborea to 3 levels of N.P.K. 15:15:15: viz. 0,1,2 ozs per plant at 10' x 10' spacing at Kairuni Creek.

- (3) Exp. Plot No. 30/72. To test the response of Eucalyptus tereticornis and Eucalyptus Camaldulensis to 3 levels of N.P.K. 15:15:15: viz. 0, 1, 2 ozs per plant at Kairuni Creek.
- (4) Exp. Plot No. 31/72. To test the response of Eucalyptus Saligna to 3 levels of N.P.K. viz. 0,2,4 ozs per plant at Kairuni Creek.
- (5) A small trial plot of Gmelina arborea consisting of 4 stumps, 4 striplings, and 4 entire plants was laid down in the compound of Guyana Match Factory at Vreed-en-Hoop.

39. Measurements and observations were made at prescribed intervals on the above experimental plots. Indications are very good. The Eucalyptus put on about 10 feet of height growth in 9 - 10 months. Gmelina put on about 7 feet of height growth in the same period.

Nursery Work

40. Experimentation in the nursery on Pinus caribaea established the following results.

(1) It is better to broadcast seeds on nursery beds instead of placing one or two seeds in polythene bags filled with soil as germination in the polythene bags is erratic and necessitates placing fresh seeds in bags where no seed germinated. As at least three weeks' germination time must be allowed before replanting blank pots with seed, the sizes of the plants vary considerably. Broadcast sowing gives plants of even age and makes subsequent fertilizing easier and safer.

(2) It is not necessary to add fertilizer to the soil before filling polythene bags with the soil. In fact the nutrient status of the soil in the bag is not very important. When seedlings are about four weeks old in the polythene bags, the placing of about 6 - 10 grains of N.P.K. 15:15:15: in each pot quickly replaces the nutrients taken up by the plant from the potted soil and causes growth to be continuous. Another dressing six weeks later and final dressing a further six weeks later ensure healthy vigorous plants.

(3) Shade can be removed from the transplant beds as early as 4 weeks after transplanting.

(4) Watering must be done regularly on days when no rain falls until planting out time (approximately five months after transplanting).

(5) *Pinus caribaea* var *hondurensis* plants are very hardy and can remain in polythene bags for up to nine months before planting out.

(6) Culls of the May-June planting season may be kept for planting in the November-December planting season provided they are given two dressings of fertilizer at two month intervals and watered regularly N.P.K. 15:15:15: is the preferred fertilizer to be used.

41. Experimentation on Gmelina arborea in the nursery established the following facts viz.

1. It is not necessary to pretreat seeds prior to sowing. Seeds sown 4" x 4" in nursery beds produce good plants.
2. Stumps produce better trees than striplings or entire plants.
3. Stumps $\frac{1}{2}$ inch in diameter produce better plants than thinner or stouter stock.

Miscellaneous Works

42. (a) Measurements were taken on the following research/experimental plots viz:- Ess:1/61, Ess 7/64, Ess 8/64, Ess 9/64, Ess 10/64, Ess 12/64, Dem 14/66, Dem 16/68, Dem 17/70, Dem 18/70, Dem 20/71, Dem 22/71, Dem 24/71, Dem 25/71, Dem 26/71, Dem 27/71, and sample plots 1 - 11.

(b) The Kairuni *Pinus caribaea* plantation (32 acres) was weeded. The most troublesome weed was razor-grass which covers the ground rapidly as soon as the forest cover is removed.

(c) The Long Creek *Pinus caribaea* plantation (20 acres) was weeded and each tree treated with 2 - 3 ozs of N.P.K: 15:15:15.

(d) The Haiama Creek *Pinus caribaea* plantation (75 acres) was weeded. No more weeding will be necessary in this plantation.

(e) The Kuru-Kuru Pine plantation was also weeded and fertilized. The trees are not growing as well as can be expected. (less than 3 feet height growth/annum). This is probably due to the fact that the site had been degraded by regular, almost annual fires prior to planting, hence the low nutrient status of the soil.

(f) Forty acres of low-value forest consisting mainly of trees, less than 8" in diameter at breast height, and palms were cleared by axe and cutlass and planted with *Pinus caribaea* and other exotic species.

(g) A wooden fence consisting of round poles and split saplings was erected around the nursery to afford the protection it needed from the public approaching from the Soesdyke-Linden Highway and the Yarowkabra Creek.

(h) The access road to the nursery was repaired with corduroy and sand, and overhanging branches removed.

(i) The arboretum was weeded and all climbers removed from the trees.

(j) Haiama creek was cleared of fallen trees, overhanging branches and tacoubas in order to make navigation possible prior to weeding of Haima plantation.

(k) Two and three year old plants of *Pinus caribaea* raised in the nursery compound and arboretum were sold to the public as Christmas trees.

(l) Acoushi patrols were carried out in all the plantations. New mirex, a relatively new insecticide, proved to be very effective against the acoushi ant.

Weather Records

43. Rainfall data are given in Appendix B.

Utilisation

Research and Advisory Section

44. The laboratory staff, in conjunction with the University of Guyana, worked out a suitable formulation for the development of a Boron Chromium Flouride (B.C.F) wood preservative for the treatment of timber by the dip diffusion method.

Pentachlorophenate was added to the preservative in an effort to eliminate the formation of moulds on the wood during the diffusion storage period. The experiment was successful in that there was a significant reduction in mould formulation to the degree where it would not cause alarm when compared with timber which was treated with the same preservative but did not contain the additive. Penetration tests were carried out by both the spot test and the ash analysis methods and was found to be good including the required level of salt retention of .33 Boric Acid equivalent.

45. A field test using the same Boron Chromium Flouride preservative described above was carried out at the Mobile Sawmill site on 500/bm of 1" lumber of the lower density hardwoods with similar results.

46. Observations continued on the pressure impregnated stakes which were put down in the graveyard at Kuru-Kuru, and indications are that the treated wood continues to withstand the attack of fungi and termites when compared with the untreated controls. The boron-treated samples which were put down during 1971 were observed to be in good condition at the end of 1972. These results are encouraging for a preservative of this type used under such exposed conditions, but it is yet too early to come to firm conclusions as to its permanence. Resistance of the treated wood to attack by termites and fungi is, however, obvious.

47. The experimental kiln was used to dry 10 charges of timber during the year. The lumber consisted of mixed hardwood species for the manufacture of parquet flooring for the Central Timber Manufacturing Plant and totalled 8,000 f.b.m. Two of the charges are partially air dry and of a Moisture Content of 35% - 40%. These charges took 7 days to reach a moisture content of 12%. The remaining 8 charges were all wet and were dried 12% in 10 to 14 days.

48. This section also formulated an insecticide for treating the logs for export to China. Work was also done in conjunction with the University of Guyana on the problem of colour change in Purpleheart. Preliminary experiments have not yielded good results but work is continuing on this project.

Sawdoctor Shop

49. This section undertook two major works during the year. The first was the installation of a new sawmill for the Interior Department in the New River Triangle. The sawmill which was built to our specifications was specially crated and flown to Camp Jaguar.

50. The other major work of this section during the year was the installation of this department's portable sawmill at Wineperu. This exercise provided valuable experience in the installation, maintenance and operation of rather more sophisticated machinery than those with which our technical personnel have been familiar.

51. This section continued to render useful service to the sawmilling industry through extension work at sawmills and in the maintenance of saws. It continued training of sawdoctors in Georgetown.

Boatbuilding Section

52. This section built four new batteaux during the year and continued to repair and maintain the department's fleet of boats.

53. The new cabin cruiser was not completed at the end of the year because of engineering work which had to be done viz. installation of engine, steering-gear, and electrical wiring.

54. This section was strengthened during the year by the employment of three temporary boatbuilders for the period during which the new batteaux were being built. The new plane and bandsaw have not yet been received but it is expected that provision is being made in the estimates for the purchase of these items during 1973.

Carpentry Section

55. The major works of this section include the building of a low temperature dryer for the Central Timber Manufacturing Plant, the building of prefabricated houses for the Mobile Sawmill, the erection of the houses at Wineperu, the building of a shed over the Mobile Sawmill, and the building of a sawdoctor shop and storeroom at the same site.

56. About 70 other minor construction and maintenance works were done during 1972 including the erection of booths for the participation of the department in exhibitions; the casting of a concrete floor for an enclosure for a transformer for the Central Timber Manufacturing Plant and the general maintenance works of buildings and fixtures for the department.

Woodworking Section

57. The Woodworking Section participated in four local exhibitions viz.

- (1) The National Agricultural Exhibition .
- (2) The exhibition sponsored by the Guyana Association of Professional Engineers.
- (3) The Skeldon Sports Club exhibition and
- (4) An exhibition sponsored by the New Amsterdam Republic Celebrations Committee at the New Amsterdam Town Hall.

Exhibits were also prepared for overseas exhibitions held in Trinidad, Grenada and the Virgin Islands.

58. Many items of high quality woodwork were made for Government departments and other official organisations together with manufacture of wooden samples and the maintenance of the department's furniture and fixtures.

59. The new utilisation workshop was completed during the year and the machinery installed. Although the electrical connections have been made to the machines, wiring up is not yet complete and is awaiting connection of an outside line via the Central Timber Manufacturing Plant. These new woodworking machines were purchased for the purpose of conducting experiments on the machining properties of local woods.

Mechanical Workshop

60. The mechanical Workshop section was kept very busy and hard pressed during the year.

61. It rendered very useful service to two major projects during the year. The first is the installation and running in of the Mobile Sawmill at Wineperu. Apart from being responsible for mechanical work during the installation, two members of the staff were seconded to the project to perform the duties of Maintenance Mechanic and Edger Operator, respectively. The other major project was the provision of vehicles, boats and engines for the China Order. Servicing of all the machinery and equipment was done by our mechanics.

62. This section continued to maintain the mechanical equipment of all sections and divisions of the department during the year. The foreman mechanic conducted a 6 week training course in outboard motor maintenance for boathands from Berbice, Demerara and Essequibo Divisions. Four new boathands have been recruited into the department and have been posted to this section for training.

Timber Grading

63. It is proposed to establish a Timber Grading and Inspection Service which will come under the Utilisation Division. For this purpose a training course was conducted by an FAO Expert in lumber grading for 5 officers of the department who will form the nucleus of the service. The course lasted for 6 weeks during which time several sawmills and building sites were visited in order to give the officers first-hand experience in the grading of timber and of its use in construction.

Mobile Sawmill

64. The department's portable sawmill was installed at Wineperu and put into operation during the year. The main objective is to utilise the lesser known and defective species. Trees are felled and the logs are extracted, by tractor, within a radius of one mile to the mill site. The logs are then converted into cants or lumber and where necessary the sapwood is treated with a suitable preservative.

65. The Sawmill consists mainly of a Circular headrig and carriage with hydraulic dogs, a live log deck with stop and loader and hydraulic log turner, a heavy duty edger with a saw bank, two shift saws, and dip tank. Ancillary equipment includes a Carrylift, log washing equipment, chain saws, sawdoctoring equipment, etc. The mill employs 22 persons.

66. Erection of the sawmill was completed in June and it was put into operation. Initially problems were encountered with the hydraulic and electrical systems but these were resolved and the mill worked satisfactorily thereafter.

PRODUCTION AND TRADE

67. Details of total production of timber by species are given in Appendix C. Volumes are expressed in cubic feet (Hoppus) in the latter appendix and also in the sections which follow here. In the latter wherever figures appear in brackets, they represent the corresponding statistics for 1971 and are given to enable quick and easy comparison.

68. The total production of timber (logs, splitwood, and roundwood) from government forests in 1972 amounted to 6,166,500 cubic feet Hoppus (5,908,100). The volume of lumber which was sawn in the forest - in sawmills or sawpits (royalty being paid on the sawn lumber coming out of the forest and not on the round logs) was measured to be 160,800 ft. b.m. - the equivalent of a log production of approximately 33,500 cu.ft. (56,000 cu.ft.). Of the total timber production, greenheart (*Ocotea rodiaei*) accounted for 3,243,500 cu.ft. (3,288,100 cu.ft.) or 52.6% (55.7%).

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

DIVISIONAL LOG PRODUCTION

Essequibo Division

Greenheart	2,816,900	(2,897,200)
Wallaba	170,100	(292,100)
Purpleheart	234,000	(198,300)
Mora	143,300	(167,200)
Crabwood	59,400	(63,200)
Kabukalli	96,700	(72,000)
Tauroniro	31,000	(41,200)
Kereti	43,900	(63,400)
Tatabu	28,100	(25,700)
Locust	31,800	(35,400)
Simarupa	45,900	(20,300)
Dalli	171,900	(47,200)
Manniballi	40,000	()
Dukali	39,300	()
Shibadan	21,700	(23,700)
Other Species	135,400	(139,000)
TOTAL	4,109,400	(4,085,900)

DEMERARA DIVISION

Greenheart	226,100	(242,400)
Wallaba	52,000	(67,100)
Karohoro	20,300	()
Kereti	34,300	(29,800)
Other Species	<u>83,900</u>	(<u>91,600</u>)
TOTAL	416,600	(430,900)

BERBICE DIVISION

Greenheart	200,500	(148,500)
Kabukalli	489,700	(396,200)
Kereti	151,100	(189,100)
Dukali	256,100	(133,400)
Dalli	46,500	(43,200)
Mora	81,100	(39,700)
Tauroniro	52,500	(53,800)
Tatabu	73,000	(75,100)
Crabwood	47,100	(55,200)
Simarupa	72,400	(43,300)
Wallaba	41,900	(35,500)
Other Species	<u>64,000</u>	(<u>55,700</u>)
TOTAL	1,575,900	(1,268,700)

NORTH WEST DIVISION

Crabwood	34,500	(45,100)
Kirikaua	3,300	(25,000)
Other Species	<u>26,800</u>	(<u>52,500</u>)
TOTAL	64,600	(122,600)

SUMMARY

Essequibo Division	4,109,400	(4,085,900)
Demerara Division	416,600	(430,900)
Berbice Division	1,575,900	(1,268,700)
North West Division	<u>64,600</u>	(<u>122,600</u>)
TOTAL	6,166,500	(5,908,100)

70. The production of timber from privately-owned forests was recorded at 140,504 cu.ft. (132,096) during 1972.

71. 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.

72. The production of fuel-wood remained in a depressed state - 406,580 cu.ft. (433,848) when compared to the production of 1,102,780 cu.ft. in 1969. The production of charcoal was 724,765 lbs which shows a decrease when compared with the 1971 figures (1,030,400). It is unlikely that the figures would increase unless new markets can be found abroad for this commodity.

EQUIVALENT OUTFURN

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

MINOR FOREST PRODUCTS

Balata

74. Production decreased to 499,519 lb, (506,663 lb) and royalty collected to \$9,990:-

Mangrove Bark

75. The amount of this commodity collected in 1972 was recorded at 475,800 lb (578,400). It was all used in the local tanning industry and was obtained from the species Rhizophora mangle found growing in the brackish water mangrove swamps of the Waini River, North West District.

76. 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.

77. The total production of timber (sawlogs) species in 1972 (i.e. all species shown in Appendix C except Wallaba) amounted to 5,906,500 cu.ft. a drop of 1,600 cu.ft. as compared to the outturn, in 1971. In 1972 Greenheart production was maintained at a total of 3,243,300 (3,288,100). There was, however, a substantial increase in the production of 6 other species viz. Dukali 300,100 cu.ft. (158,900) Mora 243,300 cu.ft. (225,400), Simarupa 125,900 cu.ft. (70,300), Kabukalli 601,000 cu.ft. (488,000), Manniballi 40,200 cu.ft. (18,800) and Manni 10,600 cu.ft. (4,200).

This increase was due to the fact that Government had, for the first time, entered into trading relations with the People's Republic of China for the supply of over one million cu. ft. of logs of thirteen species including the above six. There was also a boost in the production of lesser known species which resulted from their increasing popularity in local house building and an expansion of the export trade to Barbados, Trinidad and other "Carifta" territories. The volume of Crabwood produced continued to decrease 146,800 cu.ft. (171,500) due to import restriction and difficulty of obtaining it from accessible forest areas.

TRADE WITH THE PEOPLE'S REPUBLIC OF CHINA

78. During the year, Government contracted to supply over one million cubic feet of logs to the People's Republic of China. By year end over one-third of the order had been supplied.

79. The "China Order" was well received by the smaller loggers who took advantage of the good price offered compared with what they received previously from the sawmillers. It had, however, one adverse effect. Small manufacturers of wooden boxes, broom sticks, pallets etc. who depended almost entirely on one species of timber, dukali, could not obtain adequate supplies because most of the logs of this species were shipped to China. It is hoped that the total order will be completed by end of 1973.

IMPORTS AND EXPORTS

80. As in the preceding year considerable difficulty has been experienced in collecting and compiling accurate statistics on the export of wood and wood products. Errors of considerable magnitude have manifested themselves in the figures made available to this Department, and although we have been able to correct a few of the more glaring ones, there still remain a few others, answers to which have eluded us up to the present time. However, since we have, with some measure of satisfaction to ourselves, corrected the more obvious mistakes and brought them closer to reality, then the figures provided here, if not accurate in their entirety, are a fair and reasonable reflection of the trade in wood and wood products for the year 1972.

81. Imports for the year showed a significant decrease of nearly 2 million dollars representing a drop of 16.1% from 1971. This was due almost entirely to the reduction in the imports of paper and paper products which as a total went from \$9.6 million to \$7.9 million or a percentage decline of 17.7. The result is that whereas our net import deficit in 1971 was over \$7 million, in 1972 the figure was about \$4.6 million, due partly to the reduction in imports and partly to the 13% rise in exports from \$4.98 million in 1971 to \$5.63 million in 1972.

82. Paper and Paper products, including newsprint still dominate our import trade in forest and wood products, accounting for 77% of total imports in this category in 1972. This reflects a slight rise in the import content of these products over the years 1968 to 1972.

In fact, the average over this period for paper and paper products was 74.4% of the total imports of wood and wood products. Other imports, therefore, remained relatively stable or declined slightly. This situation reflects a healthy sign which indicates that with the development of our economy and the advance of our educational system we should use more paper and paper products relative to our total import needs of wood products and also the fact that we are becoming less dependent on the foreign wood for our building and construction needs.

83. Since there is nothing that we can do at present with respect to our imports of paper and paper products, then we can feel satisfied with our imports of these products. We can, therefore, now turn attention to the export figures to see where there was dynamism and where stagnation or retrogression reposed itself.

84. The average rate of growth of value of exports between 1968 and 1972 was 15.4% which compares quite favourably with the overall growth of 10% between 1956 and 1970. By far the greater part of the increase is reflected in the export of logs which rose by nearly 1,000% over 1971. This phenomenal rise is due almost entirely to our new trading link with the People's Republic of China. The result was that the overall increase in volume of logs exported was from 95,000 cu. ft. in 1971 to 328,000 cu.ft. in 1972.85.

Whereas, total imports between 1968 and 1972 rose by 44.9% the total exports over the same period rose by 71.4%. Although the change and the increase in revenue from exports seem heartening and are expected to continue for sometime because of continuation of the China shipments and a recent contract with Cuba for logs and poles, the areas in which the dynamic movements are described are not showing any significant response to the new urge to push forestry exports. It is in the area of sawn wood and other manufactured wood products that the most desirable export expansion should take place, but 1972 has revealed that the take off had not yet started.

86. The export of sawn wood increased slightly in quantity but there was an equally small decline in value although both figures stood well above those for 1970. Hewn Timber decreased in both export volume and value, while poles, piling and posts showed increases in both volume and value, although the average selling price dropped significantly. The other major item, balata, showed an 8% increase in value over 1971 but was still significantly less than the amount received for 1970.

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87. A slightly healthy sign from the export figures of 1972 is the continued upswing in the export of species other than Greenheart. This figure although still relatively small in the cases of sawn and hewn timber is particularly significant with respect to logs, chiefly because sales to China consist of species other than Greenheart. It is hoped that with the establishment of the Timber Export Board during 1973, there will be a continued and more significant upward drive in the sales of other species of wood.

FOREST DEPARTMENT TIMBER YARD

88. 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 considered to be merchantable (See section V of statements 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 sawmilliers:-
 - (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.

89. The details of the financial operations of the Plant are given in Appendices E(i) and E(ii). The highlights of the operations are, however, briefly illustrated by the following figures:-

(a) Purchases	1,038,060 f.b.m.	(836,949)
(b) Planed production	816,358 f.b.m.	(847,051)
(c) Sales (dressed)	811,093 f.b.m.	(862,390)
(d) Sales (rough)	76,802 f.b.m.	(42,141)

However, with effect from next year, we hope to have copies of all documents relating to export of timber from which we shall be able to obtain more accurate statistics.

EDUCATION AND TRAINING

97. Although scholarships for training at University level had been advertised, only one applicant appeared for interview and he was selected. He proceeded to the University of New Brunswick to begin his studies in October. It is regrettable that Guyanese do not take too eagerly to forestry as a career. Added to this we have had several resignations over the last few years - three Guyanese and two expatriates - the latter two left at the expiration of their first contract.

98. One Timber Technician is due to proceed on a UN/FAO fellowship in sawdoctoring and millwrighting in Australia.

99. Several scholarships had been offered for graduate training but due to the fact that (1) we were severely under-staffed and (2) all our A.C.F.'s were fully engaged, we could not avail ourselves of the opportunities afforded.

100. The numbers and disposition of staff at the end of 1972 were as follows:-

CHANGE	SENIOR STAFF	INTER- MEDIATE STAFF	SUBORD- INATE STAFF	CLERICAL STAFF
(b) Head-Quarters	2	2	5	12
Central Timber Manufacturing Plant	1 (a)	1 (a)	73 (b)	9
A.P.I. & Forest Surveys Division	1	-	5	-
Utilisation Division	1	-	15	-
Silviculture and Research Division	1	-	3	-
Management Division	2	1	4	-
Essequibo Division	-	2	29	2
Demerara Division	-	2	13	-
Berbice Division	-	2	21	2
North West Division	-	1	9	1
Vacant Posts	3 (d)	1 (d)	4 (d)	-
TOTAL	11 (c)	12 (c)	181 (c)	26

NOTES

(a) Acting appointments made.

(b) Open Vote employees - Office 12; Plant and Yard 61 (including part-time relief workers etc.). Not presently connected as part of Full Establishment.

(c) Full establishment - 11 + 12 + 108 = 131 - excluding all clerical staff who are now integrated with the Ministry.

(d) Vacant posts at 31.12.72

3 - Assistant Conservator of Forests.

1 - Assistant Utilisation Officer.

1 - Field Assistant

1 - Gr. 1 Engineer

1 - Captain

1 - Drawing Office Assistant.

Appointments and Promotions

101. Mr. A. Branche was appointed Assistant Stores Clerk with effect from 1st January, 1972.

Transfers

102. Miss McFarlane was transferred to the Ministry of Mines and Forests (Head Office) with effect from 26th November, 1972.

Retirements and Resignations

103. Mr. G. S. Bell, Assistant Conservator of Forests resigned at the end of his contract with the Guyana Government with effect from 22nd April, 1972.

Mr. R. A. Barrow, Gr. 1 Engineer retired with effect from 1st October, 1972.

Vacation Leave

104. Mr. C.F. Collins - Utilisation Officer (124 days) with effect from 1st June, 1972.

Mr. J. Meikle - Snr. Forest Inspector, (91 days) with effect from 4th April, 1972.

Mr. S. Hope - Forest Inspector, (90 days) with effect from 1st July, 1972.

Mr. L. DeFreitas - Eng. Gr. 1, (80 days) with effect from 17th January, 1972.

Awards

105. It is with great pleasure that the Department wishes to record the Award of Medal of Service in 1972 to Mr. Lloyd Sylvestre Harry for services as a Public Officer in the field of forestry.

- (c) Full establishment - 11 + 12 + 108 = 131 - excluding all clerical staff who are now integrated with the Ministry.
- (d) Vacant posts at 31.12.72
- 3 - Assistant Conservator of Forests.
 - 1 - Assistant Utilisation Officer.
 - 1 - Field Assistant
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 - 1 - Captain
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VISITORS

106. Among the visitors to the Department were:-

- | | | |
|--------------------|---|-----------------------------------|
| Derek Lovejoy | - U.N.D.P., New York. | |
| Joseph D. Lewin | - Consultant, U.N.D.P, New York. | |
| Dr. Eng. Heine | - c/o German Embassy, Georgetown. | |
| Dr. Arthur L. Burt | - c/o Mrs. Elizabeth K. Womeldorph,
Office of the Coordinator for Maps and
Publications,
U.S. Department of State,
Washington, D. C. 20520 | |
| Pak Su Kwon | - Director, Ministry of Foreign Trade
Democratic People's Republic of Korea. | |
| J. O. Hemmingsen | - Executive Vice-President,
MacMillan Bloedel Limited,
Vancouver, Canada. | |
| Angus P. MacBean | - Chief Forester,
MacMillan Bloedel Limited,
1075 West Georgia Street,
Vancouver 5, B.C., Canada.
Telephone 683-67111 | |
| Robert J. Leonard, | - B.D.F. - President
66 Donaldson Road,
Buffalo, N.Y. 14208
U.S.A. | |
| Chang Wen-huan | - Engineer Forestry |) |
| Tang Cheng | - Engineer, Wood Processing |) |
| Liu Chih-Kuan | - Official of the Ministry for
Economic Relations with Foreign
Countries |) Chinese
Technical
Mission |
| Liu Jen-Chin | - Technician, Water Conservancy |) |
| Wlu Chih-Chiang | - Interpreter |) |
| Maximiliano Noe | - Director | |
| Juan Pons S.A. | - Aserraderos, Industria Maderera
Importacion, Exportacion,
Representaciones Mawuinarias Y
Accesorios De La Industria Maderera
Articulos Agropecuarios. | |

ACKNOWLEDGEMENTS

107. 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 1972. 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.

C. A. JOHN
Conservator of Forests (Ag.)

FORM V
SUMMARY OF FOREST OFFENCES FOR THE YEAR ENDING 31ST DECEMBER, 1972

CATEGORY OF OFFENCES	No. of cases Reported and Brought Forward	Cases taken to Court				Cases dealt with departmentally		Offenders Unknown		Proceeds from sale of for- feited property	Total Number of cases dealt with	Cases pend- ing	
		Fined/ Judge- ment	Cautioned & Dischar- ged	Acquitted Withdrawn	Compounded	Cancelled	Cases	Sale of Produce					
									3				4
1. Illicit felling	21	-	-	-	-	20	\$1,085.00	1	-	-	-	21	-
2. Removing produce without a permit	6	-	-	-	-	6	186.00	-	-	-	-	6	-
3. Failing to deliver a removal permit within 24 hrs. a- fter arrival at Destination	2	-	-	-	-	1	15.00	1	-	-	-	2	-
4. Attempting to e- vade the payment of Royalty	1	-	-	-	-	1	40.00	-	-	-	-	1	-
5. Felling under- sized logs	3	-	-	-	-	3	115.00	-	-	-	-	3	-
6. Making false declaration on a Removal Permit with intent to defraud full pay- ment of Royalty	4	-	-	-	-	4	100.00	-	-	-	-	4	-
TOTAL	37	-	-	-	-	35	1,541.00	2	-	-	-	37	-

FORM VII

CUTTURN IN SOLID CUBIC FEET* OF TIMBER AND FUEL FOR THE YEAR ENDED
31ST DECEMBER, 1972

TIMBER	ROUNDWOOD	SPLITWOOD	WOOD FOR FUEL	WOOD FOR CHARCOAL	TOTAL
7,611,089 (7,284,107)	111,920 (108,635)	16,796 (48,367)	406,580 (542,310)	87,358 (124,166)	8,233,743 (8,107,585)

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

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

ROUNDWOOD: Posts and spars.

SPLITWOOD: Paling and vat staves, shingles.

Figures in brackets are corresponding statistics for previous year 1971.

CONVERSION FACTORS

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

CATEGORY	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. bm.	÷ 6 x 5/4
8. Firewood	tons	x 40
9. Charcoal	tons	x 270

FORM IX (a)

PRIMARY FOREST INDUSTRIES

Particulars of Industry	Quantity of Wood (Home grown or imported) consumed in cu.ft. (Hoppus) (i)	No. of persons employed (ii)
Sawmills	4,848,675	2,689
Match Factory ..	22,985	61
TOTAL	4,871,660	2,750

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 IX (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 - State Forest Leases	1,214	158	660	-	2,032
" -State Forest Permissions	1,020	121	1,861	52	3,054
" -Amerindian Permits	33	-	-	-	33
Sawmills and Sawpits	468	814	1,375	32	2,689
Match Factory	-	61	-	-	61
Charcoal	13	17	38	4	72
Wallaba Transmission Poles					
TOTAL	2,748	1,171	3,934	88	7,941

FORM X

IMPORTS AND EXPORTS OF TIMBER, WOOD PRODUCTS AND MINOR FOREST PRODUCTS
DURING THE YEAR ENDED 31ST DECEMBER, 1972

Item No.	CATEGORY	GROSS IMPORTS		GROSS EXPORTS		NETT IMPORTS OR EXPORTS*		Average annual Nett Imports or Exports* for quinquennium ended 31.12.72		Percentage by value of gross imports from different sources exports to different destinations during the year 1972 (and over)
		Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G	
1.	Fuelwood	-	-	-	-	-	-	-	3,782*	
2.	Charcoal	3,411	4,711	6,021	2,455	2,610*	2,256	128,298*	28,820*	From U.S.A. 100
3.	Logs (non-conifer)	311,866	50,286	438,089	555,508	126,223*	505,222*	265,974	94,363*	To China 87. Surinam 12
4.	Hewn Timber (non-conifer)					238,716*	492,874*	190,716*	374,737*	To U.K. 86
	Greenheart			218,395	476,079					
	Other			20,321	16,795					
5.	Poles, Piling, Posts (non-conifer)					615,653*	737,018*	521,151*	850,705*	To W.I. 53. U.S.A. 24, Sweden 12.
	Greenheart			372,401	345,298					
	Other	1,342	1,696	244,594	393,416					
6.	Railway Sleepers (non-conifer)			150	60	150*	60*	30*	12*	To U.S.A.
	Sawn Timber									
7.	Conifer	59,167	125,516	109	132	59,058	125,384	175,902	303,451	From Canada 99
8.	Non-conifer					1,137,989*	1,982,628*	903,259*	1,528,291*	To U.K. 38. W.I. 37 U.S.A. 15
	Greenheart			872,735	1,582,839					
	Other	512	2,116	265,766	401,905					
9.	Veneer, Plywood, Chipboard		603,020				603,020	,	510,312	From Surinam 43. Formosa 33

FORM X (CONT'D)

Item No.	CATEGORY	GROSS IMPORTS		GROSS EXPORTS		NETT IMPORTS OR EXPORTS*		Average annual Nett Imports or Exports* for quinquennium ended 31.12.72		Percentage by value of gross imports from different sources or exports to different destinations during 1972 (10% and over)
		Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G	
10.	Fibreboard	-	27,397				27,397		23,700	From Australia 76. U.S.A. 12
11.	Cooperage, boxes, builders' woodwork, shingles.		1,073,700		469,095		604,605		633,038	From U.S.A. 91
12.	Manufactured Wood Articles		239,831		20,495		219,336		103,044	From U.S.A. 31. Hong Kong 13 U.K. 19. Netherlands 10
13.	Furniture, Cabinet ware		65,022		13,658		51,364		93,515	From U.K. 47. U.S.A. 33
14.	Matches		38,136		70,031		31,895*		10,504*	To W.I.
15.	Newsprint		714,268				714,268		570,388	From Canada 99
16.	Paper and Paperboard		3,133,568		12,910		3,120,658		2,362,326	From Canada 39, U.K. 19 Sweden 10.
17.	Manufactures of Paper and Paperboard		4,059,280		320,842		3,738,438		3,796,061	From W.I. 31. U.K. 21 Canada 18 U.S.A. 11
18.	Gums, Resins, Latex		94,098		945,648		854,550*		622,502*	To U.K.
19.	Tanstuffs		-						789	
20.	Plaiting materials and manufactures		9,379		237		9,142		22,718	From China 54, Hong Kong 46
	TOTAL		10,242,024		5,630,403		4,611,621		4,905,626	

Note:(a) Solid Volume in cu.ft: excluding bark.

FORM XI (a)

SUMMARY IN DOLLARS OF REVENUE AND EXPENDITURE FOR THE YEAR ENDED 31ST DECEMBER, 1972

REVENUE			EXPENDITURE									Special Non-re- current	Grand Total	Deficit
Royalty on For- est Pro- duce	Other Forest Revenue	Total	Annually Recurrent											
1	2	3	Personal Emolu- ments	Travel- ling	Other Admin- istra- tive Charges	Equip- ment & Mater- ials	Research and Investi- gations	Silvi- cul- ture	Promo- tion of Exports	Miscel- laneous	Total Annu- ally Recur- rent	13	14	15
410,776	11,284	422,060	311,770	42,797	40,698	4,545	4,980	10,916	1,891	5,207	422,804	-	422,804	-744

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

Column 6 - Other Administrative Charges

Sub-heads - 3 Miscellaneous

4 Uniforms

5 House Rent

6 Land and Water Transport

8 Revenue Protection

14 Forest Surveys

Column 11 - Miscellaneous

Sub-heads 10 - Creek Clearing

11 - Forest Stations

16 - Contributions to Commonwealth Forestry
Institute, Oxford

FORM XI (b)

DEVELOPMENT EXPENDITURE IN DOLLARS FOR YEAR ENDED 31ST DECEMBER, 1972 - DIVISION XII
FOREST DEPARTMENT

SCHEME	EXPENDITURE TO 31.12.72	TOTAL DEVELOPMENT EXPENDITURE
1 - Forest Industries Development Survey	\$46,838.00	\$46,838.00
3 - Central Timber Manufacturing Plant	22,352.00	22,352.00
4 - Re-afforestation	25,617.00	25,617.00
5 - Purchase of Equipment	174,433.00	174,433.00
TOTAL	\$269,240.00	\$269,240.00

FORM XII

COMPARATIVE STATEMENT IN DOLLARS OF REVENUE AND EXPENDITURE (FROM FOREST DEPARTMENT VOTES)

FOR THE TEN YEAR PERIOD ENDED 31ST DECEMBER, 1972

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Revenue	295,939	377,261	396,650	480,051	439,438	452,136	433,017	494,522	415,652	422,060
Expenditure	318,641	314,068	353,506	352,402	381,152	366,123	369,290	406,531	428,710	422,804
Surplus +/ Deficit-	-22,702	+63,193	+43,144	+127,649	+58,286	+86,013	+63,727	+87,991	-13,058	- 744

h

APPENDIX 'B'
RAIN FALL (in inches) 1972

Locality of Gauge	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
<u>DEMERARA DIVISION</u>													
Ituni	9.06	3.37	6.75	7.63	9.68	4.78	5.94	7.28	1.31	3.59	3.21	3.98	66.58
Vreedenhoop	10.16	4.42	6.59	13.72	21.65	12.83	7.46	3.61	1.38	6.71	10.00	3.97	102.50
Georgetown (Botanical Gardens)	11.57	4.40	5.98	14.43	19.43	12.36	7.76	5.00	2.90	5.65	12.54	3.42	105.44
Mahaicony	13.49	5.84	5.31	16.56	19.63	10.31	4.15	3.28	0.94	3.02	9.49	1.73	93.75
Mahaica	9.05	4.02	4.14	9.27	15.35	7.10	4.39	4.95	1.26	2.38	8.18	1.68	71.77
Timehri	11.62	7.25	13.44	11.17	17.82	13.12	10.00	4.82	5.68	3.41	9.04	3.70	111.07
Linden	10.59	3.25	4.12	12.36	11.37	12.29	9.37	4.93	3.53	3.13	7.20	3.53	85.67
Saka	10.20	3.86	7.95	13.82	11.90	10.52	6.72	9.36	5.84	4.55	10.70	3.74	99.16
<u>BERBICE DIVISION</u>													
New Amsterdam	9.21	2.88	8.89	15.00	12.78	11.59	7.94	3.81	3.18	0.22	3.27	2.91	81.68
Skeldon	8.40	2.51	6.56	10.22	7.22	8.17	10.88	5.26	1.86	2.68	2.72	1.57	68.05
Rosehall	9.15	5.03	10.40	18.27	14.74	11.94	9.49	5.43	2.32	1.33	2.87	3.69	94.66
Siparuta	15.33	3.50	7.54	9.24	10.80	5.44	5.37	4.01	2.70	1.21	4.87	4.76	74.77
Springlands	8.40	2.27	6.49	11.34	8.35	10.51	9.18	6.09	2.30	2.89	2.67	1.63	72.12
<u>ESSEQUIBO DIVISION</u>													
1½ mls. Potaro Road	10.58	5.92	7.14	13.02	10.03	11.15	10.58	10.20	5.31	5.21	14.78	2.24	106.16
Penal Settlement	10.06	6.18	9.71	13.37	14.00	14.04	9.01	9.99	5.80	4.77	13.82	5.04	115.79
72 miles Potaro Road	11.68	11.68	21.06	11.74	16.90	12.21	10.75	9.22	10.84	9.23	7.44	12.89	145.64
Wineperu	7.87	10.85	7.56	7.85	13.13	11.08	12.73	6.49	5.58	4.74	11.72	3.71	103.31
Pickersgill	19.49	7.23	8.36	26.60	25.19	17.47	13.01	11.05	4.40	6.12	13.68	7.83	160.43
<u>NORTH WEST DIVISION</u>													
Wauna	19.88	4.91	6.46	16.01	11.04	10.24	9.97	11.90	11.14	7.57	9.75	6.93	135.80
Hosororo	20.59	4.90	5.91	18.47	14.41	11.76	9.66	11.49	10.48	7.09	8.08	6.95	129.79
Kumaka	12.55	4.92	6.68	25.40	23.23	13.56	10.99	12.87	4.65	6.62	19.07	2.92	143.46

Ballahoo:	A flat-bottomed, punt-like boat, very manoeuvrable and excellent for use in small, shallow creeks.
Balata:	The coagulated latex of the tree <u>Manilkara bidentata</u> used in the manufacture of machine belting, insulation of cables.
Bateau:	A round-bottomed, stemless boat with rising keelson.
Boathand:	The most junior uniformed rank in the Forest Department. Duties include operating boats and assisting Forest Guards.
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, flakes, shreds, etc.) and glue with pressure and heat into boards or sheets.
Pegasse:	Peat or bog soils occurring on the inner parts of the coastal plain in typical coastal back swamps. They developed from recent organic accumulations overlying deltaic fluvio-marine sediments.
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 means and used for making paper, textiles and many other products derived from cellulose.

APPENDIX C (CONT'D)

KEY TO USES

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

(b) Sawn Lumber - Lumber produced in the forest, royalty being paid on the sawn volume and not on the round log.

C A T E G O R Y	Volume to nearest 100 ft. bm.	Equivalent volume to nearest 100 cu. ft. HP.	Royalty to nearest 10.00G
Class I	23,700	3,400	\$280
Class II	152,900	21,800	\$1,220
Class III	300	-	-
TOTALS	176,900	25,200	1,500

(c) Other Produce

Wattles	13,900 pcs)	\$20.00
Saplings	500 lin. ft)	-
Mangrove Bark	475,800 lbs	\$240.00
Balata	499,519 lbs.	\$9,990.38

APPENDIX C

PRODUCTION OF TIMBER FROM GOVERNMENT FORESTS IN 1972

(a) Logs, splitwood and roundwood

Local Name	Botanical Name	Volume to nearest 100 cu.ft. Hoppus	Royalty to the nearest \$10,000	Main uses
1. Greenheart	<i>Ocotea rodinei</i>	3,243,500	259,480	1(Export Trade)5, 6,8,10(Vat bottoms)
2. Kabukalli	<i>Goupia glabra</i>	601,000	30,050	5,6.
3. Dukali	<i>Parahancornia amapa</i>	300,100	15,010	7,11,16,18.
4. Wallaba	<i>Eperua Spp.</i>	264,000	15,840	2(Export Trade) 3,9
5. Mora	<i>Mora excelsa</i>	243,300	12,170	4(Export Trade)1,15
6. Purpleheart	<i>Feltogyne spp.</i>	240,200	19,220	5,6,8,13.
7. Kereti	<i>Ocotea spp.</i>	230,300	11,520	7,11,13,16.
8. Dalli	<i>Virola surinamensis</i>	224,700	6,740	7,11, 18.
9. Crabwood	<i>Carapa guianensis</i>	146,800	11,740	5,6,7,8,13.
10. Simarupa	<i>Simaruba amara</i>	125,900	6,300	7,11,16.
11. Tatabu	<i>Diploptropis purpurea</i>	104,200	5,210	5, 14,15.
12. Tauroniro	<i>Humiria balsamifera</i>	87,600	4,380	5,6,8.
13. Manniballi	<i>Moronobea coccinea</i>	40,200	2,010	5,12,14.
14. Locust	<i>Hymenaea spp.</i>	36,600	1,830	5, 6, 8,13.
15. Shibadan	<i>Aspidosperma spp.</i>	35,600	1,780	11.
16. Silverballi, brown & Yellow	<i>Aniba and Licaria spp.</i>	32,100	2,770	7,11,13,15,16
17. Karohoro	<i>Didymopanax morototoni</i>	27,300	820	17 (Splints)
18. Kurokai	<i>Protium decandrum</i>	18,600	930	7, 13.
19. Futui	<i>Jacaranda copaia</i>	15,500	470	11, 16.
20. Hububalli	<i>Loxopterygium sagotii</i>	14,100	710	13, 18.
21. Dukuria	<i>Sacoglottis spp.</i>	12,500	630	
22. Manni	<i>Symphonia globulifera</i>	10,600	530	5.
23. Morabukea	<i>Mora gonggrijpii</i>	10,000	500	1,4,15.
24. Kakaralli	<i>Eschweilera spp.</i>	8,500	430	1.
25. Suradan	<i>Hieronyma laxiflora</i>	7,100	360	8.
26. Duka	<i>Tapirira marchandii</i>	6,900	210	7,11,17 (Boxes)
27. Wamara	<i>Swartzia leiocalycina</i>	5,900	300	5,6,7, 13.
28. Ulu	<i>Trattinickia spp.</i>	5,800	170	16
29. Pakuri	<i>Platonia insignis</i>	5,000	250	
30. Suya	<i>Fouteria speciosa</i>	4,400	130	7, 16.
31. Haiariballi	<i>Alexa spp.</i>	4,300	210	
32. Determa	<i>Ocotea rubra</i>	3,400	170	6, 7.
33. Kirikoua	<i>Iryanthera spp.</i>	3,300	160	7, 11, 16.
34. Baromalli	<i>Catostemma spp.</i>	3,100	90	16.
35. Cedar, Red	<i>Cedrela odorata</i>	3,000	240	13.
36. Dukaliballi	<i>Brosimum paraense</i>	2,300	120	11.
37. Cedar, White	<i>Tabebuia insignis var.</i>	2,000	100	7, 8.
38. Kurohara	<i>Calophyllum lucidum</i>	1,900	100	15 (Small Craft)
39. Bullet Wood	<i>Manilkara bidentata</i>	1,800	140	5, 12, 13.
40. Other Species		33,100		
TOTAL		6,166,500	\$413,820	

APPENDIX D

PRICE RANGES IN 1972 FOR THE MAIN TIMBER SPECIES AND OTHER FOREST PRODUCTS

SPECIES	Timber at Mills (Price in cents/cubic foot)				Lumber ex Mill (Price in cents per board feet)			
	Place	Minimum	Place	Maximum	Place	Minimum	Place	Maximum
		\$ ¢		\$ ¢				
1. (a) Greenheart (Hewn Squares)								
(b) Greenheart (Round Piles)	Georgetown	.85	Georgetown	1.20	-	-	-	-
(c) Greenheart (Local)	Bartica	.72	New Amsterdam	1.10	Pomeroon	.26	Georgetown	.50
2. Bulletwood	Barima/Aruka	.60	Barima/Aruka	.75	-	-	-	-
3. Mora	Barima/Aruka	.15	Springlands	.72	North West District	.12	Christian- burg	.28
4. Crabwood	Barima/Aruka	.26	Springlands	1.20	Pomeroon	.18	Aruka/Barima	.34
5. Dalli	Waini/Barama	.14	Siparuta	.55	North West District	.08	Georgetown	.28
6. Kereti	Aruka/Barima	.15	Siparuta	.98	Waini/Barama	.10	Soesdyke	.44
7. Purpleheart	Aruka/Barima	.30	Georgetown	1.20	Springlands	.20	Georgetown	.50
8. Kirikaua	Aruka/Barima	.16	Aruka/Barima	.22	Aruka/Barima	.12	Aruka/Barima	.18
9. Kabukalli	Aruka/Barima	.15	Siparuta	1.00	Waini/Barama	.12	Georgetown	.36
10. Karohoro	Bartica	.20	Georgetown	.55	Bartica/Parika	.14	Bartica/Parika	.16
11. Dukali	Barima/Aruka	.14	Paradise/ Siparuta	1.00	Waini/Barama	.10	Georgetown	.36
12. Tatabu	Pomeroon	.19	Siparuta	.98	Pomeroon	.14	Georgetown	.32
13. Tauroniro	Pomeroon	.28	Georgetown	.92	Pomeroon	.14	Georgetown	.36
14. Locust	Pomeroon	.22	Georgetown	1.00	Pomeroon	.14	Georgetown	.32
15. Simarupa	Pomeroon	.23	Paradise/ Siparuta	1.00	Pomeroon	.14	Georgetown/ Christianburg	.32
16. Manniballi	Bartica	.20	Georgetown	.80	Bartica	.20	Georgetown	.30
17. Shibedan	Pomeroon	.18	Georgetown	.50	Pomeroon	.14	Georgetown/ Soesdyke	.32

APPENDIX D (CONT'D)

PRICE RANGES IN 1972 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	Christianburg	\$.75	Georgetown	\$1.45	Lin. ft.
Wallaba Posts 3" - 6" Diameter	Pomeroon	.05	Georgetown	.20	Lin. ft.
Wallaba Posts 6" - 10" Diameter	Pomeroon	.06	Georgetown	.20	Lin. ft.
Wallaba Paling Staves	Paradise	4.00	Georgetown	12.00	Per 100
Wallaba Shingles	Georgetown	8.00	New Amsterdam	80.00	Per 1000
Firewood	New Amsterdam	6.00	Parika/Supenaam	14.00	Per Ton
Charcoal	Aruka/Barima	2.75	New Amsterdam	4.50	Per 100 lb bag.
Mangrove Bark	Aruka/Barima	1.20	Aruka/Barima	1.20	Per 80 lb bag
Wattles	Pomeroon	6.00	Pomeroon	8.50	Per 100
Saplings	-	-	-	-	-
Squared Beams	Supenaam	.36	Supenaam	.40	Lin. ft.

APPENDIX E (i)

CENTRAL TIMBER MANUFACTURING PLANT TRADING ACCOUNT FOR THE YEAR 1972

REVENUE				EXPENDITURE			
Particulars	F.B.M.	Average rate \$ Sales Price	Value of \$ Sales	Particulars	F.B.M.	Rate \$ at cost	Value \$
<u>Net Sales</u>				<u>Expenses</u>			
(1) Rough	76,802	27.00	20,736.54	(1) Timber Purchased in 1972	1,015,876	19.68	205,072.18
(2) Dressed Lumber	811,093	33.03	268,072.87	(2) Internal Transfer	22,184	10.00	2,218.40
<u>Other Proceeds from</u>							
(3) Contract dressing etc.			2,196.35				
(4) Technical Services			210.42	(2) All other expenses wages etc.			180,926.47
Total Net Sales	887,895		291,216.68	<u>Operating Expenses -1972</u>	1,038,060		+388,217.05
				<u>Opening Stock at 1. 1.72</u>			
				(1) Rough	412,910	20.00	82,582.00
				(2) Dressed	66,298	32.72	21,692.70
					+ 479,208		
				(3) Trim Loss	- 20,942		
				Sub total	458,266		
					1,496,326		+104,274.70
				<u>Closing Inventory at 31.12.72</u>			
				(1) Rough	514,684	20.00	102,936.80
				(2) Dressed	71,563	32.72	23,415.41
Net operating loss			74,923.38		- 586,247	-	-126,352.21
			366,139.54				366,139.54

APPENDIX E (ii)

CENTRAL TIMBER MANUFACTURING PLANT STOCK STATEMENT FOR THE YEAR 1972

ROUGH LUMBER				DRESSED LUMBER			
Particulars	F.B.M.	Rate ¢ at cost	Total Value at cost \$	Particulars	F.B.M.	Rate ¢ at cost	Total Value at cost \$
Closing Inventory at 31.12.71	412,910	.20	82,582.00	Closing Inventory at 31.12.71	66,298	32.72	21,692.70
Purchase in 1972	1,038,060	19.68	207,290.58	+ Lumber issue to plant - 1972	837,300	-	-
	1,450,970	-	289,872.58	- Trim Loss and con- version	- 20,942		
(a) Less Internal Transfers	22,184	.10	2,218.40	+ 816,358	32.72		267,112.33
	1,428,786		287,654.18				
(b) Direct sales Rough Lumber	76,802	.20	15,360.40	Direct sales 1972	811,093	33.03	268,072.87
(c) Issues to plant for manu- facturing in 1972	837,300	.20	167,460.00				
Sub Total:	914,102		182,820.40				
Closing Inventory at 31.12.72	514,684	.20	102,936.80	Closing Inventory at 31.12.72	71,563	32.72	23,415.41