

G U Y A N A

ANNUAL REPORT

OF THE

FOREST DEPARTMENT

FOR THE YEAR

1971

Published by the Ministry of Mines & Forests.

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GENERAL REVIEW

1. The most noteworthy features of the year vis-a-vis forestry development are given below:-

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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.
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 of 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 year-end, will have considerable import on the future of forestry and 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 the 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. Since other problems (of land use) than forest exploitation are involved, such action is not automatic.

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

ADMINISTRATION AND MANAGEMENT

9. The Forest Department operated for its first 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 (four posts out of six filled - with one resignation in August) the numbers of field and range staff were well maintained during 1971. 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 1971 were as follows:-

A C R E A G E	NORTH WEST DIVISION	ESSEQUIBO DIVISION	DEMERARA DIVISION	BERBICE	TOTAL
Under - 500	-	3	-	-	3
501 - 3,000	-	11	-	1	12
3,000 - 10,000	-	5	2	6	13
10,000 - 50,000	-	6	7	11	24
Over - 50,000	-	6	3	1	10
TOTAL NUMBER	-	31	12	19	62
TOTAL ACREAGE		2,340,270	388,120	330,440	3,058,830

12. With one exception (see para 15 below) there was no significant change in either the nature or number of leases in operation when compared to 1970. Some leases which had expired during 1970 were renewed in 1971 but similarly, some which had expired in 1971 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.

13. A total of 826 (1,187) non-exclusive permissions to cut specific quantities of forest produce was issued in 1971. The rate of decline in numbers, noted in 1969 and 1970 increased during this year - being obviously due to the same reason - a shortage of forests suitable for such operations i.e. situate near to the navigable rivers and carrying reasonable quantities of high quality logs. Also, more and more sawmillers are taking out forest leases for themselves instead of 'backing' small loggers in these marginal operations.

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 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 very 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 (see para. 66).

15. During the year, one large foreign company surrendered a lease covering nearly 1 million acres. This company had obtained this concession in 1969 in order to set up a pulping and, possibly, sawmill operation. It had carried out a thorough programme of investigation and trials (see para.49) and, under the conditions of its lease, was scheduled to commence building operations in 1971. However, the difficulties facing the international money market - especially the problems of long-term financing - together with the general state of the world pulp market forced the company to give up its options

and, therefore, to surrender the lease.

Another foreign company, which also holds a large lease (for integrated milling and wood products) seemed to be having the same problems at year-end.

STOCK MAPPING

16. As described in the 1970 Report, after the concentrated activities of the UNSF/Guyana Government Forest Industries Development Survey Project of the last few years, little remains to be done along the line of stock-mapping. However, forest-type maps were produced (at photo-scale) of the Pakaraima Mountain region as a start for the reconnaissance of this area (para. 21).

17. No new aerial photographs were received during the year.

PHOTO-INTERPRETATION KEY

18. Work was started during 1971 to document and record the considerable knowledge and experience which the Aerial Photo-Interpretation and Surveys Division has accumulated, over the years, in the recognition (from aerial photographs) of the various vegetation types of the country. This is being done by the preparation of representative stereograms together with descriptive texts and the final results will be made available to other users of aerial photographs in Guyana as well as to anyone interested overseas - especially in neighbouring countries.

INVENTORIES

19. As previously reported (Annual Report, 1970) an area of some 800 square miles of virgin forest in the Demerara-Essequibo watershed south of Great Falls (Demerara River) had been inventoried in the final field season of 1970. During the first quarter of the year 1971 the data were processed and the report compiled and published. Its findings were used as the basis for an application to the IBRD (see para. 55). In brief, it showed that 75% of the area was covered by mixed forests, 8% by Wallaba (Eperua) forests, 3% by swamp forests, and 9% by scrub and secondary growth. The remainder of the area could not be classified because it was not covered by photographs.

20. An inventory (100%) was made of approximately 17 acres of the Moraballi Forest Reserve. All species were tallied - from 4" dbh and up - but volumes were calculated for only 50 species of 12" dbh and up. Besides its obvious and general usefulness, this inventory was designed as part of a combined inventory - mensuration - logging - conversion return and silvi-

cultural research project. Unfortunately, at the last moment, the commercial-type exploitation programme which was planned could not be pursued because of problems in securing a suitable logging contractor.

7.

RECONNAISSANCE

21. Based upon the type-mapping previously described (see para. 16) reconnaissance survey was carried out in the Central Pakaraimas. The main findings were that most of the forests were mixed forests and the most frequently occurring species were *Dicymbe* spp. (Clump Wallabas) while Greenheart (*Ocotea rodiaei*) was of rare occurrence. At the end of the year, work was still in progress on the mapping of the area and the compilation of field-data.

INVESTIGATIONS - INVENTORY

22. Though Guyana is by no means unique in this respect, the problem of hidden rot in standing trees has always bedevilled the work of trying to calculate the net usable volume of timber in our forests. Valuable information has been obtained during the course of the UNSE/Guyana Government project (Forest Industries Development Survey - see Annual Reports 1966 - 1970) especially by means of the technique which was developed of boring holes into trees to ascertain the presence and, if there, the extent of rot. During the year, further analysis was made of the available data in order to see if there was any correlation between defect and particular forest types. In one area, at least, there appears to be less rot among the more abundant species in a particular forest type than in other types.

23. These studies inevitably led to other lines of investigation e.g. rotten inner cores was only one - and probably not the most important - aspect of defect, in general, from the utilization aspect. Compression failures and tension wood in logs could possibly be more important. Again, certain members of the *Caesalpinaceae* which possess a very characteristic reddish-brown heartwood seem prone to develop rotten cores along the entire length of the bole. Tribute must be paid, at this stage, to the stimulus which the knowledge, enthusiasm and experience of the FAO Lumber Grading Expert, Mr. Harry Booth (of Australia) gave to this line of investigation. As in everything else which concerned forestry, Mr. Booth found time outside of his terms of reference to advise, encourage and assist (see para. 51 & 52). As a result, at year-end, the whole problem of defect was being critically re-examined and we had been fortunate to secure the interest and co-operation of the Chemistry Department, University of Guyana and, particularly, of Dr. George Walcott of this faculty.

COMMUNICATIONSROADS

24. Standard Form IV is omitted from this report as no roads or other internal forest communications are constructed or maintained by the Forest Department.

ROAD VEHICLES

25. The situation with regard to the paucity of road vehicles was saved by the UNDP presenting the department with a Toyota Land Cruiser which is for the specific use of the Sawdoctor shop (a product of the UNSF/Guyana Government Forest Industries Development Survey Project 1966 - 1970). This agency also loaned the department another Land Cruiser for the use of the embryonic grading inspection section (see para. 52). One new Land Rover was purchased strictly for use of the Mobile Sawmill (para. 45 & 46).

WATERWAYS

26. No major operation of creek-clearing was necessary or undertaken during 1971.

BOATS

27. A strenuous programme of repairs kept the number of range boats (bateaux) up to the 1970 level (20). Funds were available only for the building of a new cabin-cruiser which was nearly completed at year-end. This boat is destined for the Essequibo River and like its predecessor, the Banyaballi, will almost certainly become the government's work-horse on this river - being eagerly used by all departments, a function we are happy to see the boat perform as long as there is no hindrance to our own programme of work.

28. During the year, the new boat-building shop was completed and occupied. It is more spacious and conveniently laid out than the previous one (now part of the Utilization Workshop) but, if its activities are to be expanded, it will certainly have to be given a new bandsaw and a planer of its own.

ENGINES

29. The Mechanical Workshop had a very heavy year's work in repairing and servicing the department's engines, vehicles, machinery and mechanical equipment in general. There were general (major) repairs to 12 outboard engines, three inboard, three vehicles and several small items of equipment (chain-saws, pumps, lighting plants, electric drills etc.). There was also the usual crop of minor and running repairs as well as of maintenance and servicing and too much tribute cannot be paid to a section which was found working overtime (voluntarily and unpaid) on the 18th and 19th December, in order to ensure that transport would be available to the department during what is the most critical period of the year. The leadership of the Foreman Mechanic, Mr. A. Wong, and the dedication of his men are hereby acknowledged and recorded.

30. As has been reported over the years, the Forest Department continued to assist other government departments by the loan of boats and crews. That we do so is merely a reflection of the tacit knowledge that it is our duty to help to develop the interior of Guyana - in every possible way that comes to hand.

RADIO COMMUNICATIONS

31. One of the heritages of the UNSF/Guyana Government Forest Industries Development Survey Project is that the department now possesses direct R/T communication between Headquarters and two of the three outside division offices i.e. Bartica (for Essequibo) and Mabaruma (for North West). Plans are already in hand to bring New Amsterdam (for the Berbice Division) into this radio link-up. In addition, there are a number (nine) portable sets which are used by field-crews and various out-stations. Reports to queries that formerly could take as long as ten to fourteen days to come through to Headquarters are now, in simple routine, obtained within the hour.

BUILDINGS

32. In 1971, the carpentry section completed the building of the new boat-building shop. It then concentrated on rebuilding the area formerly occupied by the boat-building shop for use as part of the new (and expanded) Utilization Workshop. There were also several other jobs which were done for the Central Timber Manufacturing Plant including commencing the erection of a building (57' x 38') for a new low temperature drying kiln (Moore) which was scheduled to be installed in 1972. Work on the latter was, however, stopped towards year-end pending the decision re the take-over of Messrs. Guyana Timbers Limited by government (para. 54) and, if this were to be done, whether the new kiln would best be installed there or at the Central Timber Manufacturing Plant in the Forest Department. In addition, there were numerous small jobs which were done by the carpenters both at headquarters and at the outstations.

33. After our depressing report (para. 33 of the Annual Report for 1970) on the sad and continuing state of deterioration of Forest Department buildings (especially the out-stations) which are under the care of the Ministry of Works, it is refreshing to report that a start was made, in 1971, to rectify some of these deficiencies. Such work as has been done in 1971 will finally produce a general improvement in our buildings only if it is continued in 1972.

PROTECTION

34. A total of 51 (59) forest offences was brought forward from 1970 or reported during 1971 (See Form V). Of this number 49 (55) were brought to finality during the year and two (4) were pending at year-end. Forty-three (52) cases were dealt with departmentally, yielding a revenue of \$904 (\$1,153) in addition to royalty on the forest produce concerned. All of the six cases taken to court concerned the non-payment of minimum royalty. Of the forest offences reported, that of irregularities regarding removal permits was the most prevalent - 22 cases. Illicit cutting was next with 17 cases. There are, therefore, no marked trends to report under this score.

SILVICULTURE

35. As stated in the Annual Report for 1970, the present objectives of the silvicultural programme are as follows:-

- (a) Various trials to ascertain the growth and yield of Pinus caribaea in all possible site and soil conditions. (Unfortunately, for various reasons, previous work had, perforce, to be concentrated mainly on one soil type i.e. the White Sands).
- (b) Experiments to determine the conditions necessary for optimum growth in the nursery and for establishment in the field (P. caribaea).
- (c) Study of the behaviour of a wide range of indigenous broadleaved species (desirables) in treated and untreated forests.
- (d) Setting up a series of replicated trials using fast-growing tropical and sub-tropical species (local and exotic) with the aim of ascertaining those species which are most suitable for production of pulpwood or timber in Guyana.

36. Unfortunately, a certain amount of budgetary restriction and control hampered the work of this division in the early part of the year. However, despite the problems arising therefrom and with the sympathetic assistance of the finance department, we were able to clear 90 acres of scrub forest - by contract labour involving 40 workers over a period of approximately 25 days. Later, 60 acres were planted with Pinus caribaea var. hondurensis. This area covered several different soil types. In addition some 5000 trees were planted between the normal rows (5' espacement) in order to produce Christmas trees - a growing sideline which earned \$600 (\$457) in the 1971 festive season.

37. As stated in the report for 1970, various investigations and research projects, both in the nursery and in the field, had been started during that year. In the former, it has been established that any type of sandy soil is suitable for early (post-germination) development of P. caribaea seedlings in

12.

the nursery but the application of fertilizer is necessary about one month after lining-out. In one case, lining-out was done directly into polythene bags. It appears that careful broadcasting of the fertilizer is ultimately cheaper than mixing it into the potting-soil even though the results are about the same in either case. Of the various fertilizers used - N:P:K: (15:15:15), triple superphosphate, tricalcium phosphate, the balanced fertilizer undoubtedly gives the best results.

38. Some results are forthcoming from other experiments which had been conducted previously e.g.:-

(a) It was evident that plants which were deliberately isolated from mycorrhizal contact did not respond as well to fertilizers as those which were inoculated in the usual way. Further, plants with no mycorrhizal contact and no fertilizer were very underdeveloped and unsuitable for planting-out at six months (the normal period).

(b) Air-pruning - by putting the polythene bags containing the plants on meshed platforms - successfully controlled the downward spread of the tap roots, but it appears that the fertilizers applied were more quickly lost to the plant than in the case of the bags resting on the transplant beds. The latter technique appears to be more desirable.

(c) There appears to be no significant effect on growth subsequent to planting-out whether the fertilizer is placed in the planting hole (immediately before planting) or if it is placed in a ring around the plant soon after planting. However, further experiments in the time of application and level of fertilizer are necessary.

(d) Carefully restricted quantities of organic manures (chicken) mixed with the sands do yield very positive benefits to a large number of fast growing species. It is very easy, however, to scorch the plants. It is not yet known whether these benefits will really produce differences in growth which will continue throughout the life of the plants thus treated as against those untreated.

39. A large number of field experiments were conducted and among the most successful were:-

- (a) Foliar spraying of planting stock - above a certain concentration - inhibited attacks and damage by leaf-cutting ants.
- (b) Optimum growth and greatest sturdiness of P. caribaea in the field is obtained by the application of higher concentrations of balanced fertilizer. This type of application is, of course, very expensive.
- (c) Investigations showed that poles cut from Kamakuti (Bombax surinamense) will root and grow to become a live fence post which will also provide shade. The timber of this species is not used locally. Trials are continuing with other species.
- (d) Species trials were laid down with 20 different exotic species in white sands and brown sands in different areas. It is too early to report any results.

40. As a side-line to normal activities and with the assistance of the Chief Agricultural Officer, a 'plant and see' programme had been started in 1970 whereby a number of fruit trees (20) were planted in the nursery surround. The object was to try to find out which species would provide the best returns for the many farmers (or would-be farmers) who have applied for agricultural holdings along the Soesdyke-Linden Highway. This work is, of course, complementary to that being done by the Department of Agriculture. During 1971, a further nine species were added. Of the lot, seven seem to be thriving - easily led by that hardy species - cashew (Anacardium occidentale) which bore-fruit within a year of planting. In similar vein, it needed but little effort to enlarge the sump for the irrigation pump at the Yarowkabra nursery into a fish pond for tilapia (Tilapia mossambica) and hassar (Hoplosternum littorale). Again, this simple item of investigation can be of considerable benefit to settlers in the area - as well as provide revenue for the department. But, all scientific consideration apart, success will depend upon the activity (or lack of) of the predators - both from land (men) and water (eels, carnivorous fish etc.).

41. The usual measurements were made in the research and sample plots in Demerara, Essequibo and Berbice and some forty acres of trial plantation were treated as required (weeding, beating-up, fertilizing). In addition, there was the usual programme of patrols against acoushi or leaf-cutting ants (Atta spp.). Wide use was made of Mirex bait in eradicating this pest (in the plantations). Finally, a very careful regeneration survey was made of two acres of the Moraballi Reserve in preparation for a joint inventory - logging - utilization - silvicultural research project (see para. 20).

WEATHER RECORDS

42. Rainfall data are given in Appendix B.

UTILIZATION

SAWMILLING

43. The Advisory Service being given to sawmillers was again continued and, indeed, enlarged during 1971. The services of the Sawdoctor (Mr. R.J. Tones) provided under the (limited) continuation of the UNSF project were finally terminated in July, 1971 but by then he had very determinedly and wisely handed over to his trainees who continued the normal work under the direct supervision of the Utilization Officer. Ten operators from private industry were trained in our Sawdoctor Shop in the grinding, tensioning etc. of circular and gang-saws and in the basic principles of the operation of such machinery. Normal sharpening etc. of saws continued but charges are now being made for 'repeat' services.

44. About a dozen mills requested and secured advice and assistance in solving various problems confronting them - e.g. alignment of circular mills; heat-tensioning of gang-saws; installation problems; rehabilitation of circular, gang and band mills. The Utilization Officer was called upon on several occasions to advise on the choice of machinery, lay-out and installation of additions to existing mills or of planning and establishing new mills.

MOBILE SAWMILL

45. As reported in 1970 (see Annual Report for that year - para. 48) the idea of setting up a mobile sawmill received support from government and funds were provided for the purchase of certain equipment in 1971. For various reasons, the original concept of a cant mill (mobile) in the forest backed up by a stationary resaw on the river had to be recast and the operation divided into two stages - starting with the former, which has of necessity had to be upgraded by the addition of an edger since it must, in this phase, produce boards, planks and scantlings as well as sleeper-sized timber. The economic calculations are rather different but still show that the project is feasible even in this modified first stage.

46. The importance of this entire concept centres around the fact that it is designed to use all of the log-volume available in the forest that it is economic to saw at the end of the normal tractor or skidder haul. There is a considerable volume of such timber which, the trade maintains, (sic) it is not economic to haul by tractor, load upon trucks, take to the river-landing, unload and, then, load upon punts and ballahoos for transporting in log form by water to the mill. The success of the venture will depend entirely upon finding a sawmill that is truly mobile (or portable) but which is sufficiently robust to be able to saw our timbers as required. After careful study, the machinery was chosen by the Utilisation Officer and orders placed. At year-end, most of the required equipment was en route to Guyana and will be installed, in 1972, in an area of 488 acres, situate three miles from Wineperu on the Essequibo River. This area was carefully inventoried for this very purpose during the United Nations Special Fund/Guyana Government Forest Industries Development Survey Project, 1966-1970. (See Annual Report 1969). The results will not only be useful to the economics and utilization branch but also to the inventory and, later, silvicultural sections - (e.g. how accurate, as would be seen from sawmill-cuttturn, were the defect allowances made by the inventory).

USE OF LOCAL TIMBER

47. Even though there has been a decrease in the total volume of production - compared to 1970 (see para. 67) - there has been a heartening increase in the proportion of species other than greenheart i.e. those species which are almost exclusively used on the local market. It is very satisfactory, indeed, to note that the use of all worthwhile species is continuing to expand and, especially, upon the home market. This increase also highlights the continued boom in the local house-building trade. All and every day this is made abundantly clear to the Forest Department when we have to refuse more orders than we accept for seasoned, well manufactured, graded lumber produced in the Central Timber Manufacturing Plant (see para. 79).

PANEL PRODUCTS

48. There is no further progress to report in this sector of the forest industry. It is our firm belief that the time is not too far distant when Guyana will embark upon the establishment of such industries - but they will need to be fully integrated with other wood-using industries. This, of course, is the intention of the foreign company which was given a large wood-cutting lease in 1969. Unfortunately, as reported in 1970, this company continues to be bogged down by organisational and financial problems overseas and no progress can be reported as yet upon the physical implementation of its plans in Guyana.

WOOD PULP

49. As reported in 1970, a large foreign corporation carried out successful tests in the manufacture of wood pulp from mixed species found in Guyana. However, in 1971, this company surrendered its lease and all its options etc., since, by its contract, it was due to commence serious building operations in that year and because, it claimed, there were insuperable difficulties in financing these operations. It appears that the problems arose primarily because of the recession in the United States towards the end of 1970 and the consequent difficulty of raising long-term finance of the nature required for the pulp factory envisaged for Guyana.

These problems were compounded, it was claimed, by the general recession in the world pulp market in 1970 and the gloomy predictions of a temporary (at least) over-capacity in the developed countries. There seems little doubt, also, that the declared policy of the Guyana Government - that either government itself or private Guyanese capital must hold a majority share in any undertaking based upon the exploitation of the natural resources of the country - also had some influence upon the final decision. However, at year-end government was pursuing other likely means of establishing this industry - including the acquisition of such knowledge and plans as had already been drawn up by the corporation which had withdrawn from the venture.

MATCH FACTORY

50. It is most regrettable to note that, for a variety of reasons, the local match factory has continued to suffer a decline in production (compare Form IX(a) for 1970 and 1971). Towards year-end the possibility of an improvement in trade appeared to be in the offing, but there are a number of obstacles which may yet prevent the attainment of this desirable and much needed goal.

TIMBER MARKETING AND PRODUCTION - DEVELOPMENTS

TIMBER MARKETING BOARD ORDINANCE, GRADING RULES

51. As stated in para. 3 (q.v) certain of the plans for expanding the timber industry centre around the establishment of a Timber Marketing Board. The Forest Department has therefore been working to provide the necessary foundations upon which such a body can be set and the instruments which it would require for its operation viz:-

firstly, the drafting of a Timber Marketing Ordinance and Regulations and, secondly, the compilation of acceptable Timber Grading Rules. In these tasks, considerable assistance has been received from FAO and, indeed, the greater part of the work has fallen upon the able shoulders of the FAO Grading Officer, Mr. Harry Booth.

52. By year-end the rough draft of the Ordinance had been prepared and was being finalized in the Department. Similarly, working in close liaison

with the trade, the FAO Grading Officer had produced a set of very comprehensive Grading Rules. These also were being thoroughly scrutinized by all concerned so that the final draft of the Rules could be made available early in 1972. In addition, Mr. Booth had been training all available Forest Department staff in the interpretation of these rules and in the techniques of timber grading.

TRADE WITH PEOPLE'S REPUBLIC OF CHINA

53. In November, a government Trade Mission was sent to the People's Republic of China - for the purpose implied in its name - i.e. to investigate the possibilities and set up the machinery required for establishing regular trade between the two countries. It was decided that timber should be one of the products that Guyana would offer for sale and the Conservator of Forests, therefore, was sent on the Mission as one of the technical advisers to its leader, the Hon. Minister of Trade, Mr. David Singh. As far as timber was concerned the Trade Agreement which was finally drawn up stipulated that China would buy up to a total of G\$1.2 million worth of timber from Guyana in 1972. However, final details re species, specifications etc. were left to be worked out by the permanent Trade Mission which China was to establish in Guyana in 1972.

CLOSURE OF MESSRS. GUYANA TIMBERS LIMITED

54. Towards the end of 1971, the Guyana Government was informed by the Commonwealth Development Corporation that the corporation proposed to terminate the operations of its subsidiary, Messrs. Guyana Timbers Limited. This is the largest individual timber and sawmilling operation in Guyana and it has been running at a loss for some years. As many causes (or sets of) have been attributed for this unsatisfactory situation as there are parties concerned viz:- CDC, government (including Forest Department), the timber trade (as a whole) the workers and the general public. These points of view and re-criminations cannot be discussed here, but the serious effects of this proposed closure are government's concern. The Forest Department was therefore instructed to investigate the operations etc. of the company and to submit a report to government. This has been done. During the course of this work the department received the full co-operation and assistance of the company. At year-end government was actively considering whether or not it should acquire the assets of the company and continue its operations on a scale to be determined.

DEVELOPMENT OF UPPER DEMERARA RIVER FORESTS

55. As reported in para. 19, government has made an application to the IBRD for a loan to set up a venture to open up the virgin forest area of the Upper Demerara River. This project envisages building a logging road, which would run along the Demerara-Essequibo watershed for about seventy miles, as well as the establishment of a sawmilling, veneer etc. complex on the Demerara River. There are no serious engineering problems to be encountered in building the road (Forest Department officers have traversed the road-trace) and it will, of course, provide numerous other benefits than the mere extraction of logs from the Upper Demerara River. A four-man team from the IBRD/FAO Co-operative Programme spent some three weeks in Guyana in August on an Identification Mission and their final report is awaited. Should this project come to fruition, it will fall under the control of the proposed Forest Industries Development Corporation.

UTILIZATION DIVISION

56. The work of this division continued along the lines previously laid down. It is divided into several sections viz:-

- (i) Sawmill improvement - including saw-doctoring and mill-wrighting (already covered in paras. 43 & 44 above)
- (ii) Research and training in timber preservation.
- (iii) Research and training in timber seasoning (including kiln-drying).
- (iv) The carpentry section (see para. 32).
- (v) The mechanical workshop (see para. 29)
- (vi) The boat-building shop (see para. 27).
- (vii) The joinery and wood-experiment section.

57. Continued observations of the pressure-treated timber emplaced in the 'graveyard' at Kuru Kuru shows every indication that the treated timber is clearly outlasting the untreated controls. Further work was done with regard to the development of suitable preservatives and techniques for the commercial application of preservation by the dip-diffusion method.

With the assistance of Mr. H. Booth, FAO officer and following upon advice from the CSIRO, Australia, the staff made up and tested (laboratory) a borofluoride chrome preservative. The tests were found to be satisfactory and treated samples were laid out in the Kuru Kuru graveyard.

58. In addition to the normal checking of the moisture content of timber stacks in the CTMP (to determine whether or not they are at EMC and ready for manufacture) the staff laid out a programme of work to determine the rate of drying and, especially, any differences or variations, within stacks. The work is continuing.

59. Investigations were made into the seasoning and strength properties of Haiariballi (Alexa spp.) and also its treatability with various types and methods of wood-preservatives. Similar tests to the latter were made with duru (Apeiba spp.) which appears to be intractable both to pressure and dip-diffusion impregnation.

60. A programme for the preparation of microscopic slides (to be used in species identification etc.) was held up by the non-availability of certain chemicals locally. These items have now been ordered directly from overseas suppliers.

61. The wood-working section continued its programme of preparing and exhibiting high quality wood-work and joinery - especially using little-known species. Exhibits were displayed at three major exhibitions. The section also prepared samples and exhibits for sending overseas - including items for the Trade Mission to China - and carried out the usual tasks of making and repairing furniture for the department and ministry.

62. Unfortunately, a combination of several factors prevented the completion of the building for the new Utilization Workshop and, therefore, the new machinery could not be installed during the year. This will be done in 1972.

PRODUCTION AND TRADE

63. 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 1970 and are given to enable quick and easy comparison.

64. The total production of timber (logs, splitwood and roundwood) from government forests in 1971 amounted to 5,908,100 cu. ft. Hp (6,427,400). In 1970, however, the production of timber had been the highest ever recorded. The volume of lumber which was sawn in the forests - 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 268,800 ft. b.m. - the equivalent of a log production of approximately 56,000 cu. ft. (102,100). Of the total timber production, greenheart (*Ocotea rodiaei*) accounted for 3,288,100 cu. ft. (3,793,900) or 55.7% (59.0%). The position of this species with respect to saw-logs only is given in para. 67.

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

DIVISIONAL LOG PRODUCTION

Essequibo Division

Greenheart	2,897,200	(3,401,900)
Wallaba	292,100	(273,000)
Purpleheart	198,300	(226,500)
Mora	167,200	(158,200)
Kabukalli	72,000	(71,100)
Kereti	63,400	(40,800)
Crabwood	63,200	(78,800)
Dalli	47,200	(28,000)
Tauroniro	41,200	(50,700)
Locust	35,400	(30,600)
Tatabu	25,700	(34,300)
Shibadan	23,700	(-)
Simarupa	20,300	(29,200)
Other Species	139,000	(164,000)
	<hr/>	
TOTAL	4,085,900	(4,587,300)
	<hr/>	

DEMERARA DIVISION

Greenheart	242,400	(261,400)
Wallaba	67,100	(25,700)
Kereti	29,800	(20,500)
Other Species	91,600	(101,700)
TOTAL	430,900	(409,300)

BERBICE DIVISION

Greenheart	148,500	(135,600)
Kabukalli	396,200	(422,300)
Kereti	189,100	(146,700)
Dukali	133,400	(102,400)
Tatabu	75,100	(51,000)
Crabwood	55,200	(49,400)
Tauroniro	53,800	(65,600)
Wallaba	35,500	(31,400)
Simarupa	43,800	(35,400)
Dalli	43,200	(-)
Mora	39,700	(80,200)
Other Species	55,700	(65,800)
TOTAL	1,268,700	(1,185,800)

NORTH WEST DIVISION

Crabwood	45,100	(140,400)
Kirikaua	25,000	(30,400)
Other Species	52,500	(74,200)
TOTAL	122,600	(245,000)

SUMMARY

Essequibo Division	4,085,900	(4,587,300)
Demerara Division	430,900	(409,300)
Berbice Division	1,268,700	(1,185,800)
North West Division	122,600	(245,000)
TOTAL	5,908,100	(6,427,400)

66. The pattern and the trend of timber production reported in 1970 (see para. 66 of Annual Report for that year) continued and are, indeed, stronger and clearer. It is the local building trade which is saving the timber industry as a whole. Exporters are really no better off than they have been for years - in some respects, their prospects have deteriorated. The industry is sorely in need of assistance to get it out of the difficulties into which it has surely - if gradually - drifted. Such assistance can only come from governmental participation and, therefore, eventual leadership in the rational utilization of the forest resource (see para. 3).

67. The total production of lumber (saw-log) species in 1971 (i.e. all species shown in App. C except wallaba) amounted to 5,513,300 cu. ft. - a drop of 583,900 cu. ft. as compared to outturn in 1970. In the latter year production had increased by 261,600 cu. ft. over 1969. It is very significant that this decrease in production (1970 to 1971) was mostly due to a fall in greenheart - 505,800 cu. ft. - and that the other 'cream species' crabwood, (Carapa guianensis) also decreased by nearly 100,000 cu. ft. compared to 1970. Despite certain individual decreases, the total overall production of the 'other' species can therefore be seen to be rather encouraging - amounting to 37.2% (33.3) of the total lumber production. It would appear, therefore, that there is now a definite trend towards increased use of these 'other' species, but it must be emphasized that this trend (despite increased exports - see para. 76) is mainly due to local demand. Also, an improvement in the greenheart export market can easily upset the proportions shown by such statistics. Be that as it may this increasing use of other species is vindicating the long-established preaching and policy of the Forest Department.

68. The production of timber from privately-owned forests was recorded at 132,096 cu. ft. (174,786) during 1971.

69. 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.

FUEL

70. The production of fuelwood remained in a depressed state - 433,848 cu. ft. (356,512) when compared to the production of 1,102,780 cu. ft. in 1969. The production of charcoal was 1,030,400 lb. - a considerable decline from the 1970 figure of 2,304,382 lb. Unless some really astonishing event should occur, there seems little likelihood of there being any significant upsurge in the production of these items.

EQUIVALENT OUTFURN

71. 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 footnote to Form VII) to the volume recorded for royalty purposes and seek to represent the actual volume of felled timber which went into the production of the various categories of timber.

MINOR FOREST PRODUCTS

72. Balata Production decreased to 506,663 lb. (705,734) and royalty collected to \$10,133 (\$14,110).

73. Mangrove Bark The amount of this commodity collected in 1971 was recorded at 578,400 lb. (474,640). 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.

74. 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

75. The writing of this report has been delayed by the fact that figures for import and export of wood and wood products have not yet been published. Even now the statistics which have been made available are unedited and the Forest Department has discovered certain glaring errors in them. We have tried to correct these inaccuracies and it is in the hope that our corrections give data that are not far from the final and true (sic) figures that this section is now being written and, indeed, that trends in the trade

have, perforce, been interpreted throughout this report. In reading this section, due allowance should therefore be made for the brevity of the remarks etc. here.

76. There appears to have been a slight improvement in the volumes of the exports of hewn and sawn timber but, on the other hand, there was apparently a considerable decrease in the volume of round greenheart piling that was exported. Such increases as there appear to have been in the gross volume of greenheart exports are as yet small and no significance can presently be inferred from them. Knowing the general state of the trade, it can be safely concluded that the general depression in the export trade continues even though one or two individual exporters would appear to have done reasonably well. It also appears that there is an upswing, though again, small as yet, in the exports of timber of species other than greenheart. Unfortunately, the gross value of exports of timber is one of the more dubious returns which have been submitted to us and one which we have been unable to correct adequately. However, it does appear that there has been no significant change in the value of our exports.

FOREST DEPARTMENT TIMBER YARD

77. 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 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.

78. 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	836,949 f.b.m.	(744,047)
(b)	Planned production	847,051 f.b.m.	(561,526)
(c)	Sales (dressed)	862,390 f.b.m.	(532,232)
	(rough)	42,141 f.b.m.	(16,754)
(d)	Value of sales (dressed)	\$286,024	(181,764)
	(rough)	\$ 11,809	(4,854)
(e)	Stock on hand at 31.12.71		
	Dressed	66,298 f.b.m.	(82,894)
	Rough	412,910 f.b.m.	(526,614)
(f)	Trading Loss	\$ 29,367	(40,851)

79. It is obvious that 1971 was a much better trading year than 1970 - even though there was still a net loss. This situation is inevitable whilst the Plant continues to operate at well below its break-even point and its capacity - simply because sufficient rough lumber is not available for purchase from the sawmilling trade. Once again, we have been forced to turn away eager customers - especially in the private sector, but also some government departments (notably the Ministry of Housing). Early in December all dried stock had been processed for that month and, at year end, it had become painfully obvious that we would not even have sufficient lumber to meet the forward orders for 1972 which were then already being offered to the Plant.

80. Perhaps the most important single aspect of the Plant's business in 1971 was the sale of two-thirds of its production to government departments (Ministry of Housing mostly 454,721 f.b.m.) at an average price of 33.16 cents per f.b.m.

This was the price that government paid for 603,500 f.b.m. of seasoned, well manufactured and graded lumber - a product not obtainable elsewhere in the country. Our nearest competitor produced ungraded, but kiln-dried, lumber at between 42 and 46 cents per f.b.m. Therefore, were it not for the Plant, government would itself have been forced to pay approximately \$66,000 more than it paid the Plant for this material - that is if it were available, of course. When this figure is compared to the loss (\$29,367) which the Plant suffered, it is obvious that merely by subsidising government's building programme, the Plant has justified its existence.

81. The Central Timber Manufacturing Plant has, therefore, proven very clearly that:

- (i) there is a very steady and vigorously growing demand for lumber of all worthwhile species provided that this material is well-seasoned, properly manufactured and suitably graded;
- (ii) that it can help to stabilize timber prices - by using these 'other' species instead of the prime, top-quality species as the majority of sawmills do (there was only a minimal price increase in the Plant in 1971).

Now that government has decided to go into the sawmilling business (see para. 46) it is hoped that eventually there will be available to the Plant a sufficient quantity of lumber to enable it to operate as a successful commercial entity.

82. The FAO Lumber Yard Adviser, Mr. A. Morrow, continued to give the sterling assistance which we have grown accustomed to his giving to the management and operations of the Plant. The system of costing the individual operations is now well established and working smoothly and is one tribute to Mr. Morrow's knowledge and enthusiasm. He has, however, also been largely responsible for the improvement of the operations in the Yard itself and has been the key 'link' man in a period when there has been a much too frequent, even if unavoidable, change of managers in the Plant. It is hoped that this is now stabilized.

REVENUE AND EXPENDITUREREVENUE

83. The total revenue collected by the Forest Department amounted to \$412,888 (497,805). The decrease is due to the fall in production, in the first place, and also to the fact that a very strenuous effort, in 1970, had then resulted in the collection of many outstanding debts. Since then collections have kept pace with revenue accruals.

84. In addition to the above, the sum of \$14,120.08 was collected as royalty on balata (see App. A) and a further \$57,890 as duty on greenheart exported. Finally, it is to be noted that the proceeds from the sale of lumber by the Central Timber Manufacturing Plant are not counted as revenue from the forest. (See App. E and para. 77 et seq.).

EXPENDITURE

85. Expenditure under annually recurring estimates amounted to \$428,710 (\$406,531) while that under Capital (Development) heads totalled \$117,599 (\$307,501). Full details are given in App. XI, (a) and XI (b).

NET FINANCIAL POSITION

86. During the year there was a surplus of revenue over recurrent expenditure of \$63,111 (\$87,991).

EXPORT AND IMPORT DUTIES

87. The amount of duty on greenheart exported was reported to be \$57,890. This figure is considerably more than that reported as having been collected in 1970 - viz. \$9,765.70. The amount given for 1971 seems, however, to be more of the right order than that for 1970, but there is presently nothing that the Forest Department can do to question, investigate or correct the figure given. It must be emphasized, however, that the collection of statistics of imports and exports of timber and forest products presents many difficulties and pitfalls to anyone who has not been trained to understand the problems to be found in the nomenclature, types of measurement etc. concerned.

EDUCATION AND TRAINING

88. Two Guyanese, Messrs. Eardley Cromwell and Rahaman Ali were sent on government scholarships to study forestry at the University of New Brunswick. It is pleasing to see this follow-up of the effort made in 1970, when two students were sent overseas for the same purpose. At this rate, it is possible to begin to hope that, some day in the not-so-distant future, the department may find itself having the full strength of the needed professional staff.
89. Two Timber Technicians, Messrs. J. W. Douglas and L. B. Williams left the country in May, 1971 on UN/FAO fellowships to study Wood Preservation and Seasoning (especially dip-diffusion using boron salts) in New Zealand. They are expected to return early in 1972. Mr. W. Bentham, Assistant Manager(ag). returned home in April from his fellowship on Timber Yard Management (in Australia).
90. The Conservator of Forests and the Deputy Conservator Mr. C.A.John, both attended the FAO/SIDA Seminar, held in April - May in Rome, on Forest Development Planning and Manpower Assessment Methodology. Later Mr. John also attended the World Consultation on Forestry Education and Training in Sweden (September - October).
91. The Conservator of Forests and the Utilization Officer, Mr. C. A. Collins, both attended the World Consultation on the Use of Wood in Housing - held in Vancouver, Canada in July, 1971. Their attendance was sponsored by the U.N. Centre for Housing, Building and Planning.
92. The Silvicultural Officer, Mr. D. A. Persram attended the Symposium, held in Florida, U.S.A. His attendance was sponsored by the International Union of Forest Research Organisations.
93. With the assistance of the local agents for Chrysler outboard engines (Messrs. Central Garage Ltd) a short course on the maintenance and repair of high-speed outboard engines was arranged for Mr. A. Wong, Foreman Mechanic and, he was able to attend it whilst on vacation leave.

94. The numbers and disposition of staff at the end of 1971 were as follows:-

CHARGE	SENIOR STAFF	INTER-MEDIATE STAFF	SUBORDINATE STAFF	CLERICAL STAFF
Head-Quarters	2	2	4	12
Central Timber Manufacturing Plant	1 (a)	1 (a)	73 (b)	9
A.P.I. & Forest Surveys Division	2	-	8	-
Utilisation Division	1	-	15	-
Silviculture and Research Division	1	-	3	-
Management Division	2	1	3	1
Essequibo Division	-	2	28	2
Demerara Division	-	2	11	-
Berbice Division	-	2 (a)	16	2
North West Division	-	1	9	1
Vacant Posts (d)	2	1	11	-
Total	11 (c)	12 (c)	181 (c)	27

NOTES

- (a) Acting appointments made.
- (b) Open Vote employees - Office 12; Plant and Yard 61 (including part time relief workers etc). Not presently counted 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 31.12.71
- 2 Assistant Conservators of Forest.
- 1 Assistant Utilization Officer.
- 2 Field Assistants.
- 1 Captain.

2 Engineers Grade 1
 2 Engineers Grade 11
 2 Forest Rangers
 2 Forest Guards

95. Appointments and Promotions

Mr. R. A. Owen appointed Assistant Conservator of Forests with effect from 27th May, 1971.

Mr. N. A. Gajee appointed Departmental Clerk Class I (Stores) with effect from 1st January, 1971.

96. Transfers

Mr. J. Munroe, Senior Clerk, - to Ministry of Health with effect from 3rd August, 1971.

Mr. V. Boodhoo, Senior Clerk, to Forest Department from Ministry of Mines and Forests with effect from 1st September, 1971.

97. Retirements and Resignations

Mr. A. J. Prince - Assistant Conservator of Forests, resigned on completion of contract in August, 1971.

Mr. M. Anthon, Forest Ranger, with effect from 7th December, 1971.

Mrs. I. Creavalle, Punch Card Operator, with effect from 1st June, 1971.

On pre-retirement leave:-

Mr. V. E. Dash, Engineer, Grade I with effect from 1st November, 1971.

Mr. L. J. McKenzie, Forest Ranger with effect from 19th November, 1971.

Mr. C. Tanner, Forest Ranger, with effect from 15th September, 1971.

Mr. V. Jordan, Engineer Grade I, with effect from 1st March, 1971.

98. Vacation Leave

Mr. V. Vieira, Assistant Conservator of Forests, (130 days) with effect from 16th July, 1971.

Mr. C. Asregado, Forest Inspector, (176 days) with effect from 1st January, 1971.

Mr. G. S. Boyce, Forest Inspector, (179 days) with effect from 3rd August, 1971.

Mr. L. Hernandez, Forest Ranger, (140 days) with effect from 1st April, 1971.

Mr. A. Wong, Foreman Mechanic, (75 days) with effect from 1st June, 1971.

Mr. H. Dey, Engineer Grade I, (75 days) with effect from 30th April, 1971.

Mr. G. McIntyre, Forest Ranger, (93 days) with effect from 28th December, 1971.

99. Visitors

Among the visitors (i.e. those who signed our 'book') were:-

Messrs. Quimby Hess - Department of Lands and Forests - Queen's Park, Toronto, Ontario.

Frank L. Douglas - Box 76 Baker Laboratory - Cornell University, U.S.A.

Peter Degmecic - General Director, YUGO-SLAV Trade Mission.

Samuel Muller, B.Sc. - Project Engineer, Eisenberg Group of Companies - Tel Aviv, Israel.

James M. Bloom - Area Manager - Detroit, Michigan 48231.

Walter Stettner - Economist, U.S.A.I.D.

James Richard Sartorius - Second Secretary of Embassy of the United States of America.

E. J. Stone, Jr. - Export-Import Manager - Corley Manufacturing Company - 1300 E 29th Street, Tennessee.

Shaul Homsky, M.Sc. Agr. - Ministry of Agriculture, Hakirya - Tel-Aviv, Israel.

Dr. Efraim Keisari - Caracas.

M. Sugawara - Nissho-Iwai, Tokyo.

Hideji Yoshizawa - Niss Ho-Iwai American Corporation, N.Y.

E. Sugimura - Nissho-Iwai, Tokyo.

Paul S. Dinglödine - Assistant Commercial Secretary, Canadian High Commission, Port of Spain.

Ing. Valentin Steriopol - Department of Economics, Socialist Republic of Rumania.

ACKNOWLEDGEMENT

100. 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 1971. 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.

FORM V

SUMMARY OF FOREST OFFENCES FOR THE YEAR ENDED 31ST DECEMBER, 1971

CATEGORY OF OFFENCES	No. of cases Reported and Brought Forward	Cases taken to court				Cases dealt with departmentally		Offenders Unknown		Proceeds from sale of forfeited property	Total Number of cases dealt with	Cases pending	
		Fined/Judgement	Cautioned & discharged	Acquitted Withdrawn	Compounded	Cancelled	Cases	Sale of Produce					
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Illicit Cutting	17	-	\$ 0	-	-	16	\$ 450.00	-	-	-	-	-	1
2. Attempting to evade the payment of Royalty.	2	-	-	-	-	2	75.00	-	-	-	-	-	-
3. Failing to Produce a permit within 24 hrs. after arrival at destination.	4	-	-	-	-	4	45.00	-	-	-	-	-	-
4. Conveying Forest Produce without a Removal Permit.	9	-	-	-	-	9	106.00	-	-	-	-	-	-
5. Failure to enter Forest Produce on Permit.	8	-	-	-	-	8	120.00	-	-	-	-	-	-
6. Cutting Forest Produce without a State Forest Permission.	2	-	-	-	-	2	58.00	-	-	-	-	-	-
7. Felling of Logs in wrong area of State Forest.	1	-	-	-	-	1	20.00	-	-	-	-	-	-
8. Obliterations on Removal Permit.	1	-	-	-	-	1	10.00	-	-	-	-	-	-
9. Non-payment of Minimum Royalty.	7	1	90.87	-	-	5(a)	-	-	-	-	-	-	-
TOTAL	51	1	90.87	-	-	43	884.00	NOTE: (a) Amounts paid before calling a case.-					2

FORM VII

OUTTURN IN SOLID CUBIC FEET* OF TIMBER AND FUEL FOR THE YEAR ENDED

31ST DECEMBER, 1971

TIMBER	ROUNDWOOD	SPLITWOOD	WOOD FOR FUEL	WOOD FOR CHARCOAL	TOTAL
7,284,107	108,635	48,367	542,310	124,166	8,107,585
(8,136,530)	(82,689)	(37,134)	(445,640)	(227,830)	(9,041,780)

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 1970.

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.	$\frac{\cdot}{\cdot}$ 100
3. Paling posts	Lin. ft.	$\frac{\cdot}{\cdot}$ 5
4. Shingles	Pieces	$\frac{\cdot}{\cdot}$ 50
5. Paling staves	Pieces	$\frac{\cdot}{\cdot}$ 12
6. Vat staves	Lin. ft.	$\frac{\cdot}{\cdot}$ 25
7. Sawn timber	ft. b.m.	$\frac{\cdot}{\cdot}$ 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	4,429,893	2,338
Match Factory ..	12,435	49
TOTAL	4,442,328	2,387

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	1,310	127	346	-	1,783
" - State Forest Permissions	-	-	1,331	82	1,413
" - Amerindian Permits	45	-	-	-	45
Sawmills and Sawpits	475	777	1,046	40	2,338
Match Factory	-	49	-	-	49
Charcoal	20	21	71	1	113
Wallaba Transmission Poles	-	-	-	-	-
TOTAL	1,850	974	2,794	123	5,741

FORM X
IMPORTS AND EXPORTS OF TIMBER WOOD PRODUCTS AND MINOR FOREST PRODUCTS
DURING THE YEAR ENDED 31ST DECEMBER, 1971

CATEGORY	GROSS IMPORTS		GROSS EXPORTS		NETT IMPORTS OF EXPORTS*		Average annual Nett Imports or Exports* for quinquennium ended 31.12.71		Item No.	Percentage by value of gross imports from different sources or exports to different destinations during the year 1971 (10% and over).
	Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G		
Buelwood	30	115	1,800	315	1,770*	200*	-	4,010*	1	To Barbados 100.
Charcoal	31	118	78,513	19,171	78,482*	19,053*	-	38,694*	2	To U.K. 77, Barbados 83.
Logs (non-conifer)	432,420	65,385	94,795	51,382	337,382	14,003	379,083	7,850	3	From Surinam 100
Sawn Timber (non-conifer)	-	-	-	-	283,263*	510,831*	207,254*	377,191*	4	To U.K. 88.
Greenheart	-	-	215,084	496,645	-	-	-	-		
Other	-	-	68,179	14,186	-	-	-	-		
Poles, Piling, Posts (non-conifer)	10,900	4,306	-	-	319,616*	621,308*	514,308*	876,120*	5	To West Indies 63: U.S.A.17: Neths.13
Greenheart	-	-	103,054	221,098	-	-	-	-		
Other	-	-	227,462	404,516	-	-	-	-		
Railway Sleepers (non-conifer)	-	-	-	-	-	-	-	-	6	
Sawn Timber:										
Conifer	140,086	311,604	-	-	140,086	311,604	210,346	336,665	7	From Canada 99
Non-conifer	-	-	-	-	1,050,596*	2,001,684*	857,025	1,374,631*	8	To U.K.46: West Indies 21: U.S.A.14.
Greenheart	-	-	868,428	1,767,987	-	-	-	-		
Other	67	296	182,235	283,993	-	-	-	-		
Veneer, Plywood, Chip-board	-	514,787	-	10	-	514,777	-	456,286	9	From Surinam 48: Taiwan 21.
Fibreboard	-	29,310	-	-	-	£9,310	-	40,498	10	From Australia 58.
Cooperage, Boxes, Builders Woodwork (including shingles)	-	1,240,464	-	565,705	-	674,759	-	706,045	11	From U.S.A. 92.
Manufactured wood articles.	-	101,689	-	1,723	-	99,966	-	73,560	12	From U.K.32: U.S.A. 22: Neths. 11.

FORM X (Contd.)

CATEGORY	GROSS IMPORTS		GROSS EXPORTS		NETT IMPORTS OF EXPORTS*		Average annual Nett Imports or Exports for quinquennium ended 31.12.71		Percentage by value of gross imports from different sources or exports to different destinations during the year 1971 (10% and over).
	Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G	Quantity (a)	Value \$G	
Furniture, Cabinet Ware	-	87,645	-	18,382	-	69,263	-	97,820 13	From U.K. 48: U.S.A. 24: Canada 14.
Matches	-	111,766	-	33,009	-	78,757	-	12,919*14	From West Indies 100.
Newsprint	-	624,048	-	-	-	624,048	-	511,376 15	From Canada 97.
Paper and Paperboard	-	2,322,310	-	202	-	2,322,108	-	2,002,615.16	From Canada 32: U.K. 23.
Paper and Paperboard Manufacture	-	6,663,687	-	278,404	-	6,385,283	-	3,476,864 17	From West Indies 9:
Gums, Resins, Latex	-	102,263	-	877,589	-	775,326*	-	526,947*18	To U.K. 100
Tan stuffs	-	79	-	-	-	79	-	789 19	From U.K. 100
Plating Materials and Manufacturers	-	32,561	-	486	-	32,075	-	22,696 20	From Japan 40: U.K. 28 China 24.
		12,212,433		4,984,803		7,227,630		4,522,852	

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, 1971

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 Admini- stra- tive Charges	Equip- ment & Mater- ials	Research and Investi- gations	Silvi- cul- ture	Promo- tion of Exports	Miscel- lane- ous	Total Annu- ally Recur- rent			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
405,094	10,558	415,652	319,291	39,271	43,451	4,898	4,785	10,873	1,792	4,349	428,710	-	428,710	63,111

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
 17 - Contributions to Latin America Forest
 Research and Training Institute.

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

FORM XI (b)

DEVELOPMENT EXPENDITURE IN DOLLARS FOR YEAR ENDED 31ST DECEMBER, 1971 - DIVISION XII
FOREST DEPARTMENT

S C H E M E	EXPENDITURE TO 31.12.71	TOTAL DEVELOPMENT EXPENDITURE
1. Forest Industries Development Survey	49,909	49,909
2. Expansion of Utilisation Workshop	16,632	16,632
3. Central Timber Manufacturing Plant	31,214	31,214
4. Forest Plantations	19,844	19,844
TOTAL	117,599	117,599

FORM XII

COMPARATIVE STATEMENT IN DOLLARS OF REVENUE AND EXPENDITURE (FROM FOREST DEPARTMENT VOTES)
FOR THE TEN YEAR PERIOD ENDED 31ST DECEMBER, 1971

	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Revenue	431,821	295,939	377,261	396,650	480,051	439,438	452,136	433,017	494,522	415,652
Expenditure	383,455	318,641	314,068	353,506	352,402	381,152	366,123	369,290	406,531	428,710
Surplus +/ Deficit	+48,366	-22,702	+63,193	+43,144	+127,649	+58,286	+86,013	+63,727	+87,991	+ 63,111

APPENDIX A

- Ballahoo:** A flat-bottomed, punt-like boat, very manoeuvrable and excellent for use in small, shallow creeks.
- Balata:** The coagulated latex of the tree Manilkara bidentata used in the manufacture of machine betting, 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 'B'
RAIN FALL (in inches) 1971

Locality of Gauge	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	TOTAL
<u>NORTH WEST DIVISION</u>													
Arakaka	5.92	2.30	2.65	3.49	8.99	10.52	8.41	2.45	5.78				
Kokerite	8.43	3.26	1.30	0.90	7.54	15.97	8.20	-	5.31				
Moruca	7.59	3.55	1.67	3.76	11.48	17.59	13.47	6.92	3.46				
Kwebanna	7.27	3.74	2.23	4.22	10.50	21.88	15.96	7.29	6.89				
Mabaruma								7.46	8.98	2.22	1.55	17.80	
Matthews Ridge			2.36	3.25	7.14	8.79	-	-					
Morawhanna	7.21	2.59	1.15	1.67	11.42	20.72	13.24	6.25	4.77				
Port Kaituma	8.24	2.22	2.45	2.58	5.40	13.94	10.34	7.66					
Red Hill	5.73	9.75	4.09										
Wara Poka	8.40	4.91	0.90	4.78	12.31	16.90	8.24	3.81					
Wauna	5.06	1.47	1.00	0.79	7.05	19.13		7.41					
<u>ESSEQUIBO DIVISION</u>													
1½ mls. Potaro Road	11.62	4.52	4.22	8.20	13.35	18.30	9.54	10.20	6.17	8.43	4.89	10.55	109.00
Mazaruni Prisons	7.46	4.93	3.17	7.71	12.42	15.83	11.30	6.41	5.80	7.39	4.18	9.46	96.06
Wineperu	11.05	10.96	7.50	12.00	14.75	14.13	11.57	14.14	6.46	5.88	8.91	8.58	125.93
72 mls. Potaro Road	7.63	5.87	5.48	8.56	16.83	7.52	7.00	11.46	2.60	5.78	7.28	11.48	97.49
Pickersgill	7.65	5.57	2.32	17.77	14.62	22.55	15.80	9.70	9.36	5.39	13.60	24.45	148.78
<u>DEMERARA DIVISION</u>													
Georgetown	4.73	3.11	3.16	5.00	14.75	15.80	11.69	13.69	4.27	6.41	12.06	17.63	112.30
Vreeden Hoop	5.18	4.01	3.17	7.18	14.35	15.36	11.10	16.37	4.62	5.59	11.50	18.15	116.58
Mahaica	4.43	2.64	2.17	2.46	12.48	18.12	11.13	12.36	1.69	6.32	4.65	10.84	89.29
Mahaicony	4.34	1.17	1.77	0.56	10.66	15.63	7.29	11.15	1.54	6.13	8.17	8.33	76.74
Timehri	8.96	2.71	4.39	7.02	16.20	19.90	9.58	13.72	4.85	9.49	11.94	12.53	121.29
Linden	8.75	4.07	5.47	5.63	12.94	12.19	16.85	14.38	5.24	3.17	4.07	8.32	101.08
Ituni	10.25	3.33	6.02	8.68	15.64	13.16	14.05	14.75	6.74	2.39	3.30	6.35	104.66
<u>BERBICE DIVISION</u>													
New Amsterdam	5.52	3.43	5.40	7.78	11.47	14.00	6.68	18.13	3.54	8.79	2.92	6.84	94.50
Rosehall	7.38	3.90	6.63	8.63	13.89	16.10	5.45	13.84	2.82	5.67	3.72	7.77	95.80
Springlands	8.96	6.78	4.07	6.43	13.44	7.81	8.70	9.61	2.01	3.80	3.07	3.48	78.16
Skeldon	8.70	7.22	4.43	7.47	13.63	7.85	8.66	9.09	2.70	4.71	2.87	3.70	81.03
Siparuta	12.96	7.53	5.96	8.53	11.29	13.23	12.85	9.12	2.63	3.20	2.14	5.56	95.00

APPENDIX C

PRODUCTION OF TIMBER FROM GOVERNMENT FORESTS IN 1971

(a) Logs, splitwood and roundwood

Local Name	Botanical Name	Volume to nearest 100 cu.ft. Hoppus	Royalty to the nearest \$ 10.00 G	Main uses
1. Greenheart	Ocotea Rodiaei	3,288,100	263,050	1 (Export trade) 5 6,8,10 (Vat bottoms)
2. Kabukalli	Goupia glabra	488,000	24,400	5,6
3. Wallaba	Eperua spp.	394,800	19,380	2 (Export trade) 3, 9, 19
4. Kereti	Ocotea spp.	284,300	14,220	7, 11, 13, 16
5. Mora	Mora excelsa	225,400	11,270	4 (Export trade)
6. Purpleheart	Peltogyne spp.	206,500	16,520	5, 6, 8, 13
7. Crabwood	Carapa guianensis	171,500	13,720	5, 6, 7, 8, 13
8. Dukali	Parahaneornia amapa	158,900	7,950	7, 11, 16, 18
9. Tatabu	Diploptropis purpurea	103,100	5,160	5, 14, 15
10. Dalli	Virola surinamensis	102,300	3,070	7, 11, 18 (Logs Export trade)
11. Tauroniro	Humiria balsamifera	100,700	5,040	5, 6, 8
12. Simarupa	Simaruba amara	70,300	3,520	7, 11, 16
13. Locust	Hymenaea spp.	37,800	1,890	5, 6, 8, 13
14. Shibadan	Aspidosperma spp.	34,700	1,740	11
15. Silverballi, Brown & Yellow	Aniba and Licaria spp.	31,900	2,550	7, 11, 13, 15, 16
16. Kirikaua	Iryanthera spp.	25,000	1,250	7, 11, 16
17. Dukuria	Sacoglottis spp.	19,700	990	
18. Manniballi	Moronobea coccinea	18,800	940	5, 12, 14
19. Kurokai	Protium decandrum	16,100	810	7, 13
20. Karahoro	Didymopanax morototoni	15,400	770	17 (Splints)
21. Hububalli	Loxopterygium sagotii	10,600	530	13, 18
22. Suya	Pouteria speciosa	8,400	420	7, 16
23. Haiariballi	Alexa spp.	6,600	330	
24. Wamara	Swartzia leicalycina	6,200	310	5, 6, 7, 13
25. Pakuri	Platonia insignis	6,200	310	
26. Duka	Tapirira marchandii	5,500	170	7, 11, 17 (Boxes)
27. Futui	Jacaranda copaia	5,300	160	11,16
28. Cedar, White	Tabebuia insignis var	5,000	150	7, 8
29. Manni	Symphonia globulifera	4,200	210	5
30. Whitewood		4,000	120	
31. Determa	Ocotea rubra	3,800	190	
32. Cedar, Red	Cedrela odorata	3,800	190	13
33. Baromalli	Catostemma spp.	3,600	110	16
34. Kakaralli	Eschweilesea spp	3,100	160	
35. Monkey Pot	Lecythis davisii	3,000	150	
36. Maho	Sterculia pruriens	2,800	80	
37. Fukadi	Terminalia spp.	2,600	130	
38. Barodan	Ocotea tomentella	2,600	80	
39. Korokoro	Ormosia coutinhoi	2,200	70	
40. Morabukea	Mora gonggrijpii	2,200	110	
41. Koraro	Ardira spp.	2,100	110	
42. Dukaliballi	Brosimum	2,000	100	
43. Other Species		19,000		
TOTAL		5,908,100	402,430	

APPENDIX C (Contd.)

(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.kF	Royalty to nearest %10.00G
Class I	18,800	3,900	230
Class II	248,900	51,900	1,990
Class III	1,100	200	10
TOTALS	268,800	56,000	2,230

(c) Other Products

Wattles	23,523 Pcs.)	\$ 40.00
)	
Saplings	432 Lin. ft)		
Mangrove Bark	578, 400 lbs.		\$290.00
			<hr/>
			\$330.00

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

KEY TO USES

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

APPENDIX D

PRICE RANGES IN 1971 FOR THE MAIN TIMBER SPECIES AND OTHER FOREST PRODUCTS

(i) TIMBER

S P E C I E S	Timber at Mill (Price in cents cubic foot)				Lumber ex Mill (Price in cents per board foot)			
	Place	Minimum	Place	Maximum	Place	Minimum	Place	Maximum
1. (a) Greenheart (Hewn Squares)	Georgetown	1.00	Georgetown	1.50	-	-	-	-
(b) Greenheart (Round Piles)	Georgetown	.90	Georgetown	1.30	-	-	-	-
(c) Greenheart (Local)	Pomeroon	.30	New Amsterdam	1.10	Pomeroon	.18	Georgetown	.38
2. Bulletwood	Siparuta	.78	Siparuta	.80	-	-	-	-
3. Mora	Soesdyke	.20	Springlands	.88	Soesdyke	.13	Parika	.28
4. Crabwood	Pomeroon	.28	Springlands	1.00	Pomeroon	.18	Georgetown	.38
5. Dalli	Aruka/Waini	.8	Georgetown	.40	Waini-Barima	.8	Parika	.20
6. Kereti	Pomeroon	.16	Springlands	.88	Pomeroon	.12	Georgetown	.27
7. Purpleheart	Barima/Aruka	.30	New Amsterdam	1.10	Springlands	.20	Georgetown	.34
8. Kirikaua	Barima/Aruka	.16	Barima/Aruka	.24	Barima/Aruka	.12	Barima/Aruka	.18
9. Kabukalli	Pomeroon	.28	Springlands/ Siparuta	.88	Pomeroon	.12	Georgetown	.32
20. Karohoro	Soesdyke	.12	Georgetown	.24	Soesdyke	.10	Bartica	.14
11. Kurokai	Barima/Aruka	.15	Springlands	.85	Barima/Aruka	.12	Bartica	.22
12. Duka	Barima/Aruka	.8	Georgetown	.40	Barima/Aruka	.6	Bartica/G/Town	.20
13. Tauroniro	Pomeroon	.20	Springlands	.80	New Amsterdam	.18	Paradise	.30
14. Simarupa	Barima/Aruka	.15	Springlands	.60	Barima/Aruka	.14	Soesdyke	.24
15. Silverballi Brown & Yellow	Pomeroon	.34	Georgetown	1.00	Georgetown	.24	Bartica	.40
16. Locust	Georgetown	.42	Christianburg	.60	Georgetown	.20	Georgetown	.28
17. Manniballi	Bartica	.26	Georgetown	.44	Supenaam	.18	Georgetown	.24
18. Dukali	Pomeroon	.19	Springlands	.80	Pomeroon	.14	Parika	.25
19. Shibadan	Bartica	.26	Springlands	.85	Pomeroon	.16	Parika/Supenaam	.24
20. Tatabu	Pomeroon/ Christianburg	.28	Springlands	.88	Pomeroon	.14	Georgetown	.32

APPENDIX D (Cont'd)

PRICE RANGES IN 1971 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	\$ 1.00	Lin. ft.
Wallaba Posts 3"-6" Diameter	Supenaam	. 5	Georgetown	.20	" "
Wallaba Posts 6"-10" Diameter	Paradise	. 8	New Amsterdam	.15	" "
Wallaba Paling Staves	Pomeroon	5.00	Parika	14.00	Per 100
Wallaba Shingles	Georgetown	10.00	New Amsterdam	40.00	Per 1000
Firewood	Bartica	3.00	Parika	15.00	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

APPENDIX E(i)

CENTRAL TIMBER MANUFACTURING PLANT - TRADING ACCOUNT, 1971

REVENUE				EXPENDITURE			
Particulars	F.B.M.	Rate Sales Price	Value of \$ Sales	Particulars	F.B.M.	Rate Cents	Value \$
<u>NET SALES:</u>				<u>EXPENSES:</u>			
(1) Rough	42,145	25.65	11,809.45	(1) Timber purchased in 1971.	836,949	19.68	164,747.96
(2) Dressed Lumber	862,390	33.16	286,024.22	(2) All other expenses, Wages etc.			139,884.54
Other Proceeds from							
(3) Contract dressing Lumber etc.			1,883.00				
(4) Internal Transfer	37,684	10.00	3,768.40				
Total Net Sales	942,215	-	303,485.07	Operating Expenses - 1971			+304,632.50
				<u>Opening Stock at 31.12.70</u>			
				(1) Rough	526,614	19.78	104,170.38
				(2) Dressed	82,894	33.35	29,317.10
					+609,508		133,487.48
				Trim Loss	- 20,869		
				Sub total	588,639		
				<u>Closing Stock at 31.12.71</u>	+1,425,588		438,119.98
				(1) Rough	415,818	20.00	83,163.60
				(2) Dressed	67,555	32.22	22,104.00
Net Loss			\$ 29,367.31		483,373		-105,267.60
	942,215		\$332,852.38		942,215	-	\$332,852.38

APPENDIX E(ii)

CENTRAL TIMBER MANUFACTURING PLANT - STOCK STATEMENT FOR YEAR, 1971

ROUGH LUMBER				DRESSED LUMBER			
Particulars	F.B.M.	Rate $\frac{\text{¢}}$ at cost	Total Value at cost \$	Particulars	F.B.M.	Rate $\frac{\text{¢}}$ at cost	Total Value at cost \$
Closing inventory at 31.12.70	526,614	19.78	104,170.38	Closing Inventory at 31.12.70	82,894	34.35	29,317.10
Purchases 1971	836,949	19.68	164,747.96	+ Lumber for manu- facturing, 1971	867,920		
	<u>1,363,563</u>	19.72	<u>268,918.34</u>	- Trim Loss or conversion.	<u>20,869</u>		
(a) Less Internal Transfer	37,684	10	3,768.40		<u>847,051</u>	32.46	274,958.00
	<u>1,325,879</u>	20.00	<u>-265,149.94</u>		929,945	32.72	282,171.00
(b) Direct sales rough lumber	42,141	20.00	8,428.20	Direct sales -1971	862,390	32.72	282,171.00
(c) Issues to Plant for Manu- facturing in 1971.	867,920	20.00	173,558.14				
SUB TOTAL:	910,061	20.00	181,986.34				
Closing inventory at 31.12. 71	415,818	20.00	83,163.60	Closing inventory at 31.12.71	67,555	32.72	22,104.10

NOTE: Rough stock year end Physical Inventory was 412,910 B.M.
Dressed stock year end Physical Inventory was 66,208 B.M.