 FIAG/84/19

FOOD AND AGRICULTURE ORGANISATION OF THE UNITED NATIONS

FIAG ASSISTANCE PROGRAMME TO THE AFRICAN TIMBER ORGANISATION (ATO)

THE REPUBLIC OF LIBERIA

FAO/ECA/UNIDO FOREST INDUSTRIES ADVISORY GROUP FOR APRICA (FIAG)
RAF/82/006

Addis Ababa
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Project Manager

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ABSTRACT

This report presents the results of an exercise to model forest industry development in Liberia. It presents background information about Liberia and the forestry sector, then discusses the trends and projections in forest cover and production and trade of forest products. It suggests that forest resources will not be able to meet future demand for wood and recommends that forest plantations should be planted to meet this demand.

1 INTRODUCTION, SUMMARY AND CONCLUSIONS

1.1 Introduction

The member countries of the African Timber Organisation (ATO) contain over 90% of the closed broadleaved forests of Africa, yet their record of forest industries development is remarkably varied. The FIAG programme includes a series of sector surveys in both Central and North Africa, and the Middle East, to explore the possibility of developing joint forest industry projects between resource-rich countries and those with markets, financial resources and sometimes the technology.

The assistance programme to the ATO is seen as a major step along this road, in that it will enable us to carry out a project-oriented forest industry sector survey of the twelve member countries of the ATO and, at the same time, attempt to draft a sub-regional forest industries development and planning policy, for consideration and possibly for adoption by the Council of Ministers of the ATO.

1.2 Summary and conclusions

Once embarked upon the above exercise, it became clear to the FlAG experts and consultants that the first step had to be detailed review of the forest resources of each member country and, in particular, a projection of the life of these resources as a useful base for forest industries development.

In the case of Liberia we found that, even taking into account the extra forest reserves indicated by the recent aerial survey, the domestic demand will far surpass the available resources, as measured by the MER, soon after 2000, and the forests will be heading for extinction around 2020. If the aerial survey results are ignored that date will be much earlier, around 2005.

The other two pressures on the forest, the demand for fuelwood and the deforestation effects of the upland rice farmers are, between them, causing forest losses of around 75,000 - 100,000 hectares per year. Even without other demands, these pressures could cause the total loss of the forests within 30 to 40 years.

The conclusions for Liberia are clear. Though the country's forest reserves seem abundant, they are in fact inadequate to cope with the future demands of expanding population and economic development, and if steps are not taken now, the country could be facing major climatological changes, with ensuring food crop, fuelwood and cash crop crises in the early years of the next century less than 20 years away.

The solutions are also clear and not necessarily very painful or costly.

- An immediate ban on all log exports.
- A phasing out of all other forest product exports by 1995, until the combination of plantation output and the rebuilt forest reserves are sufficient to allow an exportable surplus.
- A major programme of industrial and fuelwood plantations, of mixed exotic and indigenous fast growing species, designed to satisfy total domestic demand for forest products and fuelwood in perpetuity, and to take all pressures off the remaining reserves of natural forest.
- A major campaign to prevent further deforestation by shifting cultivation, either by restricting the upland rice farming community to existing areas of forest fallow or young bush, or by a more radical and ambitious total reform of the practice to produce a settled agricultural system.

2 BACKGROUND

2.1 Geography and climate

Liberia has an Atlantic coastline of more than 550 kilometres with Sierra Leone on the West, Guinea in the North and the Ivory Coast on the East. It lies between approximately latitude 4 and 8. The land area is 111,369 km corresponding to an average width along the coast of less than 200 kin. The land consists of a narrow coastal plane intersected by tidal lagoons, marshes and creeks, a central area of plateaux and narrow valleys containing the high rain forest and a mountainous area (maximum 1380 m) along the Guinea boarder. Annua1 rainfall decreases from 4,000 mm or more along the central and northern parts of the coast to 2,000 m or slightly less along the northern boarder. Monrovia receives an average of 4,638 mm and Tapeta and Suakoko in the north central zone about 1,900 mm. The wet season is from November to April, with a temperature range between 21° to 32°C.

2.2 Population

The 1978 census recorded 1.7 million people and an annual growth rate of 4.5%.

2.3 Infrastructure

In 1981, Liberia had 6,268 miles of public and private roads of which 364 were tarred. The main trunk road is the Monrovia-Saniquellie Motor Road extending northeast from the capital to the country's border with Guinea and eastward to the border with the Ivory Coast. Trunk roads run through Tapeta in Numba County to Grand Gedel County and from Monrovia to Buchannan.

There are no state railways, but 493 km of privately owned railway exist for the extraction of iron ore. Monrovia is a free port. In addition there are the ports of Buchanan, Greenville and Harper. About 150 shipping companies are registered at Monrovia. Liberia's main airports are Roberts International 35 miles east of Monrovia and James Spriggs Payne airport. There are over 100 airfields and airstrips. Liberian Broadcasting Corporation is the official radio. There are 4 private broadcasting stations. Television LL.T.V. is commercial and sponsored by the Government.

2.4 Economy

The gross National Product in 1978 was US$820 million (WB.).

Table I Foreign trade balance (million $Lib)

	1976	**1977**	**1978**	**1979**
Domestic exports	451.0	440.5	479.4	530
Re-exports	6.0	7.0	7.0	na.
Imports	399.2	463.5	480.9	540
Trade balance	+57.8	-16.1	+5.5	-10

2.5 Political situation

The Government is military. The Peop1e's Redemption Council came to existence after the coup of 12 April 1080.

3 FOREST RESOURCES

3.1 Natural forest

In the recent (1984) "Outlook Study for the African Forest Sector", FAO gives the following figures for the development of growing stock in the closed productive forests of Liberia:

1980: 220 million m³
1990: 146 million m³
2000: 70 million m³

This implies that the Liberian closed forests will have disappeared completely by the year 2009, only 25 years from now. The above view is consistent with the 1982 FAO Study of the Tropical Forest Resources of Africa which gave the following areas of natural woody vegetation estimated at end 1980:

Table II Forest area

Closed Broadleaved Forest	**(thousand ha)**
Undisturbed, productive forest	905
Logged-over, productive forest	425
Mangrove and Coastal forest	80
Unproductive forest	600
Forest fallow	5,500
Total	**7,510**
Total Land Area	**9,632**

The estimate of growing stock for 1980 given earlier was calculated as follows:

Table III Growing stock

Productive Forest	**(mio m³)**
Undisturbed - 905,000 ha x 170 m³ =	154
Logged-over - 425,000 ha x 155 m³ =	66
Total	**220**

Current work by Hammermaster and Dow (FAO) working with the FDA and using aerial photography, has arrived at a total of 3.83 million hectares of forest cover in the country, outside forest fallow, which appears to be nearly double the area estimated above. This is not impossible, as all earlier estimates were based on the inventory work of the German forestry Mission (1960-67) who worked only in the National Forests, which covered approximately two thirds of the country.

Even making generous allowances for small isolated areas, coastal and other unproductive forests, the remaining area of productive forest could still be 2.6 million hectares, which are double previous estimates. It is unlikely however that there is any unrecorded undisturbed forest, so all additional forest is assumed to be logged.

3.2 Forest Exploitation

An average yield of commercial species from the undisturbed forest was estimated in 1980 to be 8m³ per hectare. At the 1980 production level for sawlogs and veneer logs of 745,000 m³, the area logged-

over annually is about 90,000 hectares which, if continued, would exhaust the estimated undisturbed forest reserves by 1990. The primary commercial species cut in 1974 were:

Table IV Commercial species

Class	Commercial name	Latin name	Production	
			m³	%
I	Sipo	Entandrophragma utile	64 476	16.91
	Sapele (sapelli)	Entandrophragma cylindricum	13 418	3.52
	Tiama	Entandrophragma angolense	12 654	3.32
	Kosipo	Entandrophragma candollei	10 857	2.85
	Acajou (khaya)	Khaya spp.	10 267	2.69
	Dibeton (lovoa)	Lovoa trichilioides	25 814	6.77
	Makore (douka)	Tieghemella heckelii	28 343	7.43
	Niangon	Tarrietia utilis	70 919	18.59
	Tetraberlinia	Tetraberlinia tubmaniana	7 461	1.96
Total class I species (above and other species class I)			**255 933**	**67.12**
II	Wawa (obeche-samba)	Tripochiton scleroxylon	14 817	3.89
	Kusia (bilinga)	Nauclea spp.	8 638	2.26
	Abura (bahia)	Mitragyna ciliate	13 693	3.58
	Aiele	Canarium schweinfurthii	6 369	1.67
	Framire	Terminalia Ivorensis	11 510	3.02
	Red oak	Gilbertiodendron preussii	4 155	1.09
Total class II species (above and other species class II)			**60 986**	**15.99**
III	Naga	Braclrystegia leonensis	22 857	6.00
	Ekki (azobe)	Lophira alata	18 580	4.87
	Dahoma (dabema)	Píptadeniastrum afrícanum	9 871	2.59
	Tali	Erythrophleum spp.	3 193	0.83
Total class III species (above and other species) and other			**64 397**	**16.89**
Total all species			**381 316**	**100.00**

Annual fuelwood and charcoal consumption in Liberia is shown in the following figures from the FAO Outlook Study: 1970: 2,925,000 m³; 1980: 4,078,000 m³; 1990: 5,554,000 m³; 2000: 7,544,000 m³. Even assuming the firewood is cut from forest fallow or unproductive forests, it still represents the removal of some 30,000 hectares a year in 1980, rising to over 60,000 hectares a year by 2000.

3.3 Industrial plantations

At the end of 1980 there were some 6,300 hectares of industrial plantations, as shown in Table V below:

Table V Industrial plantations (thousand ha)

Species	**Planting year (age class)**			**Total**
	1976-80 (0-5)	**1971-75 (6-10)**	**Before 1970 (>10)**	
Tectona grandis	1.1	0.5		1.6
Gmelina arborea, eucalypts and other fast-growing species	2.4	1.2		3.6
Subtotal: hardwood species	***3.5***	***1.7***		***5.2***
Pines	1.1			1.1
Total industrial plantations	**4.6**	**1.7**		**6.3**

The growth characteristics of the *Gmelina arborea* and *Pinus caribea* are given below:

Table VI Growth characteristics

Species	Rotation (years)	MAI (m^3/ha/year)	Final cut (m^3/ha)	Planting distance
Gmelina arborea	8-10	35(4 yrs) 25	200-250	1200 stems/ha
Pinus caribaea	15 15 15 15	13 17 20 13 (ub)	195	

Though the forest service had an agreed target to plant 2,000 ha per year, current enquiries revealed that this was not being achieved.

3.4 Deforestation

The major cause of deforestation is the shifting cultivation of upland rice farmers intruding into tracts of forests opened up by the network of logging roads. In 1976 130,000 households were growing rice on 182,000 hectares, and every year they moved on to a new area of cut bush or forest, to plant another 1.4 hectares per household.

Even assuming only 30% cut "high bush" that only half of this was closed forest, an annual deforestation rate of 41,000 hectares was calculated for the period 1976-80, rising to 46,000 hectares from 1981-85.

Assuming an increasing agricultural population, the total deforestation of: the closed forest and remaining productive forest areas up to the year 2000 will be as follows:

Table VII Deforestation

	Total Deforestation (ha)	Remaining forest (ha)
1980-1990	485,000	845,000
1990-2000	585,000	260,000

At this rate the closed forest, which we estimated would be totally logged-over by 1990, will be totally deforested by about 2005. If the revised figures for the total closed forest, currently being produced, are substantiated, then an extra breathing space will, have been obtained, but only until the early 2020s.

4 FOREST INDUSTRIES

4.1 Present Situation

4.1.1 Sawmills

There are 34 recognised sawmills in Liberia, of which 33 are listed in Appendix IV and one is attached to the Bomi Hills Training Institute. The combined input capacity is about 425,000 m³ per year on one shift operation, though only 300,000 m³ of this capacity is active at present.

4.1.2 Ply/veneer Mills

There are three plywood mills and one sliced veneer plant in the country owned by the Liberian Timber and Plywood Corporation, Maryland Logging Corporation, and Liberian
Logging and Wood Processing Co. The combined capacity of these plants is about 50,000 m³ plywood and veneer output per year. For a variety of technical, financial and operational reasons, none of these plants is currently operating.

4.2 Future Trends

The FAO/FIAG projections of consumption of forest products in Liberia are as follows:

Table VIII Consumption projections (000m³)

Product	1970	1980	1990		2000	
			Low	High	Low	High
Sawnwood and sleepers	38	145	197	201	270	344
Wood-based panels		6	7	12	9	22

Source: FAO Outlook Study

5 FIAG COMPUTER MODEL

5.1 Introduction

During the course of the forest industries sector survey in the ATO countries, it was first found necessary to establish a firm raw material resource base on which to plan future forest industries development. It soon became obvious that some of the twelve ATO countries did not have the forest resources to last them even 10 years, and that only 4 or 5 of the countries had sufficient resources to supply their projected industries beyond 2040.

The FIAG Computer Model developed four distinct but interconnected sections:

5.1.1 Natural forests

In this section we attempt to define the size of the resource base and, taking into account the projected rate of extraction; the effects of deforestation, and the natural growth rate in the forests, project a safe annual allowable cut or "Maximum Extraction Rate" (MER) for the period 1980-2030.

5.1.2 Compensatory plantations

Because the majority of ATO countries are losing their forests at a dangerously fast rate, and none of them are establishing sufficient plantations, this section deals with compensatory plantations, designed to replace double the volume being extracted each year from 1980 to 2000.

5.1.3 Forest industries

Based on a safe resource base from the above two sections, and an extrapolation of the demand projections from the FAO Outlook Study, this section attempts to define the production, imports, exports and consumption patterns for sawnwood, plywood, veneer and saw/veneer logs from 1980 to 2000.

5.1.4 Capital and manpower requirements

The decision makers in any country will need to know the major implications of any long term forest industry policy. This section is designed to translate the other sections into clear capital investment requirements, manpower development needs and the costs of training that manpower.

We will now discuss the various sections of the computer model in the case of Liberia, with reference to the appropriate annexes.

5.2 Natural forest model (Annex XI)

Starting with 0.91 million ha of undisturbed forest and 1.69 million ha of logged forest in 1980, (Rows G and H in the model); with a level of 15m³/ha of commercial timber in the undisturbed forest, and 5m³/ha in the logged forest (Rows S and T), we have established an initial resource base of 22.1 million m³ of commercial timber in 1980 (Row P).

The total annual extraction rate is forecast in Row X; the losses due to deforestation are given in Rows AE (in hectares) and AJ (In Mio m³), and the positive growth is estimated in Row AO. All these factors have a cumulative reducing effect on the commercial timber resource base reflected across columns 2 to 12 from 1980 to 2030.

Based on work by CTFI (Centre Technique Forestier Tropical), we have estimated the safe Maximum Extraction Rate (MER to be 1.6% of the established commercial resource base. This is equivalent to an average growth rate, or "mean annual increment" (MAI) of 4m³ per hectare per annum, or an average rotation period of 62.5 years.

The initial MER in the case of Liberia is 0.34 or 340,000 m³ per annum, which is the same as the actual extraction rate. By the year 2000 the extraction level is nearly double the MER, and by the year 2020 there are only about 2 years reserves of commercial timber remaining in the forest.

5.3 Liberia plantation model 1 (Annex XII)

Our starting point in the plantation model is normally a mixture of five species with 20, 30, 40, 50 and 60 years rotation; MAI's of 25, 12, 8, 5 and 4 m³ per ha per year, and a balanced yield between thinnings and the final cut.

The model can be varied to give any mixture of these five species depending on the urgency with which the plantation output is needed to replace the diminishing yield from the natural forest.

The increasing annual rate of plantation establishment (Row Y) is a direct reflection of the increasing extraction rate from the natural forest model. After a suitable time lapse, the total estimated annual yield from the plantations (Row AV), which is assumed to take the place of timber from the natural forest, begins to reverse the declining trend in the MER and to produce a new MER (Row BB) which, after a further period of time, should actually show an increasing MER.

In the case of Liberia, the extraction rate after 2010 is increasing so rapidly, due entirely to domestic demand, that the normal pattern of compensatory plantations had little effect on the MER. Only by restricting the species to an equal mixture of the two fastest growing species was it found possible to stabilise the MER after 2010. In Annex XIII, using 100% of the fastest growing species, with a 20 year rotation, it was found possible to actually match the extraction rate and increase the MER after 2000.

The message is clear for Liberia. Not only should all log exports be eliminated immediately, but all forest product exports should also cease, and the forest resources reserved for domestic demands. In addition, if there are to be any forest resources left after 2020, a big increase in industrial plantation activity is also needed immediately - to around 2,000 hectares per annum in 1985 and increasing slowly to around 30,000 hectares per annum by 2030.

5.4 Liberia forest industries model (Annex XIV)

The model shown in Annex XIV is an interim version while the final model is being developed, together with the capital and manpower requirements section.

This version gives the high and low GDP growth projections of forest products demand up to the year 2000, starting with the population, GDP and GDP/capita data, in Rows G to I. Using the product income elasticities (assumed in Rows AU, AV and AW) consumption levels for sawnwood plywood

and veneer are calculated (Rows L, S and Z) and then converted into saw/veneer log requirements in Row AG. Possible exports are then added to give total saw/veneer log production (Row AK).

It has not proved possible to integrate this section of the model with the previous two sections, due to lack of computer memory space, so the work has been transferred to a larger computer and should be completed in about three months time. This interim version is included as an example of the type of information which will be supplied in due course, but no serious conclusions should be drawn from it at this time.

5.5 Graph of sawlog and veneer log supply and demand balance

Annex XV is a graph illustrating the conclusions drawn from the data produced from the computer model. It clearly illustrates the dramatic growth of domestic demand after 2000, which threatens to destroy the forest completely by around 2020.

With a massive and accelerating programme of industrial plantations however, output from these plantations picks up quickly after 2000 and runs roughly parallel with the demand curve. This would release the pressure on the natural forest and allow it to be preserved in the interests of the climate and the ecological balance of the country.

6 FOREST INDUSTRY PROJECT

6.1 General situation

Most of the forest industries in Liberia are working well below full capacity, and some are not working at all. If the export of forest products were to be phased out by 1995, the capacity of the existing industry is sufficient to meet domestic demand for many years to come. In these circumstances, FlAG would not recommend a new forest industry project, but would prefer to see major improvements effected on one of the existing industries in need of assistance.

6.2 Liberian Timber and Plywood Corporation (LTPC)

LTPC, which was originally an American owned Company called Vanply, is a large integrated sawmill and plymill built at Greenville in Eastern Liberia. It has changed hands several times and, since 1980, belongs to the State and is being operated as an independent parastatal organisation.

The basic plant and machinery is sound, but badly in need of good maintenance and, in the case of the logging equipment, much of it should be totally renewed. The company is also desperately short of top level technical management. Some of the current financial data is given in Annex XVI.

Originally built for around $25 million, and probably capable of a turnover in excess of $30 million a year, the company is currently operating at about a quarter of that level, and is no longer profitable. Its major assets however are the basic soundness of its main plant and machinery, and the size and richness of its concession area. The Government is currently looking for a private buyer or corporation with the technical expertise, and access to market outlets, which could set the company on its feet again.

6.3 Technical Assistance Project

A FlAG Project to assist in the reorganisation of LTPC could take several forms:

- An active promotional campaign to find a company or buyer, capable and willing to take over LTPC.
- A FIAG Consultancy mission to LTPC, lasting five or six weeks, to study the main technical and operational problems; to propose detailed solutions to those problems, and to estimate the costs involved.
- A longer term, UNDP financed, TCP project, to install an experienced Technical Adviser at the Mill, for about 12 to 18 months, to assist the management team with the reorganisation of the machine maintenance, and with day to day operations.

ANNEX I FIAG PROGRAMME OF ASSISTANCE TO THE AFRICAN TIMBER ORGANISATION (ATO)

1. Background

The Forest Industries Advisory Group for Africa (FlAG) has been advising member States on forest industries development problems since 1978, and a previous group operated in Africa from 1968-76. Over this period the FlAG Group has built up considerable experience in the particular problems affecting the Region.

In February 1983, the FlAG Group proposed a Technical Cooperation Project with the ATO (Document FIAG/83/04) which would have enabled them, through consultancy services, to make an extensive study of each member Country of the Organisation, to identify potential forest industry projects in each country, and to coordinate these projects into a broad regional development plan.

Due to various reasons, including budgetary restraints, the extensive use of outside consultants has not proved possible. However, using the information and experience built up over the last fifteen years within FlAG, including recent detailed sector surveys in several member countries of the ATO, the FlAG is now proposing to implement the main points in the programme of assistance using mainly the existing team of FlAG experts in the course of their normal work around the Region. Appropriate consultants, with expert knowledge of certain countries, may still be used for short periods, but the exercise will be primarily an "in-house" exercise.

The objectives and terms of reference have therefore had to be amended to reflect the changed modalities of the exercise, but the basic principles of the programme of assistance have been retained.

2. Objectives

The Forest Industries Advisory Group for Africa (FlAG) proposes a programme of assistance to the African Timber Organisation (ATO) with the aim of enabling ATO member countries to:

a) project their needs in the development of the respective forest industries sectors.
b) establish sectorial investment priorities and
c) promote appropriate industrial projects of country and/or regional relevance.

3. Terms of Reference

1) The team of FlAG experts, assisted by appropriate consultants, will prepare a desk study of the forest industry sector of each member country, based on all available FlAG, ECA, PAO and UNIDO data, and including recent ATO reports.

2) On the basis of the above studies FlAG will establish, country by country, minimum and maximum growth projections for the production, consumption, export and import of forest products to the year 2000.

3) Following analysis and discussion with all relevant parties, FlAG will submit these studies and projections to the appropriate governmental authorities in each member country.

4) After discussion with the governmental authorities concerned, FlAG will develop industrial project proposals for each country, with a tentative priority schedule.

5) Project Documents will then be prepared by FIAG for critical project proposals as a basis for subsequent prefeasibility studies, to facilitate their promotion and implementation by the member Governments.

6) Final country studies giving the broad development proposals for each country, together with relevant project documents, will then be prepared and submitted to all member countries, to the A.T.O., and to other interested parties.

4. **Execution**: By - FIAG Experts and appropriate Consultants

5. **Dates**: January - May, 1984

ANNEX II LIBERIA - MISSION ITINERARY

Sat 3 March	Arrive Monrovia
Mon 5 March	UNDP Office - Briefing
	Forestry Development Authority (FDA)
	FAO Office Briefing
Tue 6 March	FDA-Planning, Research and Statistics
	Liberian Timber and Plywood Corporation
Wed 7 March	Bomi Hills - Forest Industry Training centre
	Bomi Wood Corporation
	Bomi hills Plantations
Thu 8 March	FDA-Planning, Research and Statistics
	FDA - Mapping Services
	Liberian Timber and Plywood Corporation
Fri 9 March	FDA - General Discussions
	UNDP Office Debriefing
	FAO Office Debriefing
	Liberian Timber and Plywood Corporation
Sat l0 March	Depart Monrovia

ANNEX III LIBERIA - LIST OF PEOPLE MET

1.	Mr. Hugh Greenidge	UNDP Resident Representative
2.	Mr. Norma Walker	UNDP Deputy Resident Representative
3.	Mr. J.A.C. Davies	FAO Regional Representative
4.	Mr. Edward 0. Bayagbona	FAO Representative to Liberia
5.	Mr. Shad G.. Kaydee	General Manager, Forestry Development Authority
6.	Mr. Ernest Dow	FAO Senior Forestry Adviser
7.	Mr. Eric Hammermaster	FAO Forestry Adviser
8.	Mr. Albert B. Gbanya	Manager-Forestry Planning
9.	Mr. J. Seytay Grear	Forestry Training Coordinator
10.	Mr. Thomas Dundas	Chief-Mapping Services
11.	Mr. Fred-Sieh Toe	Plantations Manager, Bomi Hills
12.	Mr. Anthony Sayeh	Principal, Bomi Hills FITC
13.	Mr. James E.M. Turay	V.P. Rangers, Bomi Hills FITC
14.	Mr John T. Harding	V.P. Forest Industries Bomi Hills FITC
15.	Mr Ken Macdonald	Senior Adviser Forest Industries Bomi Hills FITC
16.	Mr Peter D.M. Killen	General Manager, Bomi Wood Corporation
17.	Mrs Juanita M. Snyder	President, LTP Corporation
18.	Mr Clarence L.N. Weefur	Resident Manager, LTP Corporation

ANNEX IV ESTABLISHED SAWMILLS IN LIBERIA

Sawmill		Normal Capacity ('000 m^3)	Location Region	Present Status (1981)
1. Associated Liberia Timber Corp.	(ALTCO)	17	3	Active
2. Bolado Lumber Co.	(BLC)	4	3	Active
3. Cape Palmas Logging Co.	(CPLC)	15	2	Active
4. Cestos Nimba Corp.	(CNC)	30	1	Active
5. Cavalla Timber Co.	(CTC)	10	4	Inactive
6. Ganta Sawmill	-	6	1	Active
7. International Wood Corp.	(INWOCO)	2	4	Inactive
8. Jo-River/Rivercess	(JO-RIVER)	7	1	Active
9. Liberia Eastern Timber Corp.	(LETCO)	30	2	Inactive
10. Libco Timber Co.	(LIBCO)	40	2	Active
11. Liberian Industrial Forestry Co.	(LIFC)	6	3	Inactive
12. Liberian Logging and Wood Process Co.	(LLWPC)	15	2	Active
13.Upper Lofa	(LOFACO)	3	3	Active
14. Lofa Timber Corp.	(LOTICO)	16	3	Inactive
15.Liberia Timber and Plywood Corp.	(LTPC)	45	4	Active
16. Mecca Logging Co.	(MECCA)	4	3	Inactive
17. MIM/FAT	-	15	1	Active
18. Suga Timber	(MIM/PAT)	18	1	Active
19. Maryland Logging Corp.	(MLC/MWPI)	12	2	Active
20 Nimba Corp..	(NIMBCO)	12	1	Inactive
21. Prime Timber Products	(PTP)	15	2	Active
22. Tropical Farms Corp.	(TFC)	10	3	Active
23. Talk Lumber Corp.	(TLC)	35	1	Inactive
24. Talinco	(TALINCO)	7	3	Active
25. Jogba Timber Corp.	(JTC)	6	2	Active
26. United Logging	(ULC)	10	2	Active
27. ADP + LNG (Government)*	-	2	3	Active
28. Dunba Construction Co.	(DUNBA)	3	1	Inactive
29. Firestone Sawmill*	(FS)	1	3	Active
30. Goodrich Sawmill*	(GRS)	2	3	Active
31. Liberia Agricultural Co.*	(LAC)	3	1	Active
32. Ligna Wood Corp.*	(LIGNA)	2	-	Inactive
33. Sinoe Lumber Co.*	(SLC)	3	3	Inactive

* Mighty-mite, small band or framesaw

ANNEX V VITAL FORESTRY STATISTICS 1973 - 1982

PRODUCTION, DESIGNATED EXPORT AND CORRESPONDING ASSESSED REVENUE

Year	Total Production of Round Logs 000 M³	Severance Fees 000 $	Reforestation 000 $	Tree Marking Fees $	Designated Export of Round Logs	IIF 000 $	Fines 000 $	Designated Export of Sawn Timber	Forest Production Fees 000 $	Totals [p/]
1973	474.3	-	-	-	415.0	2.519.6	-	-	-	2.519.6
1974	408.5	-	588.3	-	283.0	2.550.1	-	-	-	2.943.4
1975	468.0	-	668.1	-	251.9	3.735.0	-	-	-	4.403.1
1976	606.8	-	873.9	-	332.1	6.286.0	-	-	-	7.160.3
1977	598.5	-	1.021.4	-	275.6	6.490.3	-	-	-	7.511.7
1978	774.6	1.104.2	2.323.9	-	309.4	9.349.6	-	45.9	-	12.777.7
1979	755.8	1.030.3	2.267.5	-	475.1	8.346.0	65.9	46.5	425.1	13.155.2
1980	744.9	1.018.5	2.284.8	-	483.8	12.242.9	-	41.8	362.5	15.828.2
1981	451.1	651.3	1.359.5	17.30	238.8	8.192.0	-	26.7	256.2	10.452.8
1982	388.8	559.2	1.186.4	24.00	206.1	5.455.6	-	19.2	192.3	7.551.5

ACTUAL EXPORT AND CORRESPONDING FOB VALUE

	Real Export of Round Logs 000 M³	FOB $ Round Logs 000$	Real Export of Sawn Timber 000 M³	FOB $ Sawn Timber 000 $	Total FOB Value (000 $)
1973	364.0	16.606.0	-	-	16.606.0
1974	278.0	17.581.0	-	-	17.581.0
1975	220.0	17.966.0	-	-	17.966.0
1976	341.7	37.834.0	41.6	7.541.3	45.125.5
1977	318.2	38.086.0	43.1	8.889.7	46.975.7
1978	356.0	49.552.0	45.7	9.706.7	99.298.7
1979	389.0	58.317.5	57.1	13.809.2	22.180.7
1980	470.2	84.096.4	45.5	11.012.3	95.108.7
1981	255.4	46.212.9	26.3	7.571.0	53.283.9
1982	226.4*	34.751.3*	18.0[a/]	4.908.6	39.653.9

N.B. I.I.F. Industrialization Incentive Fees

* The vo1ume and FOB values of actual export of round 1ogs and sawn timber are subject to adjustment when the November 1982 port statistics are reconciled and corrected.

[p/] Excludes reforestation fee

[a/] Sawn timber includes only boules

ANNEX VI ROUND LOG EXPORT, FOB PRICE AND UNIT FOB/M³ BY COMPANY 1980 - 1982

Company	Region	Country	1980			1981			1982		
			Export Volume	FOB Value	Unit FOB/M³	Export Volume	FOB Value	Unit FOB/M³	Export Volume	FOB Value	Unit FOB/M³
ALTCO	3	Lofa	10.440	3.610.756	346	11.402	2.226.056	195	11.069	1.739.963	157
BELL (P)	2	Grand Gedeh	1.685	295.388	175	-	-	-	-	-	-
WATRACO	1	Grand Basa	-	-	-	1.200	242.320	201	-	-	-
CAVALLA (P)	4	Sinoe	14.882	2.934.573	187	8.224	1.565.891	190	6.032	1.117.917	185
CNC	1	Nimba	12.779	3.051.016	239	15.423	2.825.152	183	9.875	1.769.579	179
CPLC	2	Grnd G-deh	9.440	1.308.389	139	5.635	1.096.679	195	4.833	857.845	177
DUBE (P)	1	Nimba	378	62.263	165	5.302	842.226	159	2.808	563.295	201
DUNEE	1	Nimba	597	142.793	239	2.282	402.813	177	107	17.173	160
EAC/PTP	2	Grand Gedeh	25.255	3.895.441	154	6.537	852.979	130	-	-	-
EXOTIC	-	-	6.503	2.088.692	321	4.114	741.119	180	-	-	-
G/FAIR (P)	1	Nimba	6.161	764.858	124	124	20.344	164	-	-	-
GATE-WAY	3	Lofa	3.368	685.136	203	8.369	2.750.604	329	11.988	1.830.455	153
GSC/GANTA	1	Nimba	261	35.711	137	73	9.139	125	363	81.094	223
GONYOR	1	Nimba	-	-	-	-	-	-	89	-	-
GHCE a/	1	Nimba	-	-	-	-	-	-	71	-	-
INWOCO (P)	4	Sinoe	7.815	1.486.418	190	1.042	166.930	160	-	-	-
JOTICO	1	Nimba	-	-	-	-	-	-	205	-	-
JO-RIVER	1	Grand Basa	12.764	1.226.008	96	6.667	1.251.793	188	3.155	512.314	162
LIBCO (P)	2	Grand Gedeh	342	53.819	157	13.929	2.723.225	135	3.185	510.035	160
LETCO	2	Grand Gedeh	19.271	3.766.727	195	11.272	1.905.964	169	10.539	1.889.112	179
LIFC/LMC (P)	3	Bomi	8.098	1.164.326	144	319	43.214	135	1.495	219.202	147
LLWPC	2	Grand Gedeh	65.073	11.907.862	183	39.038	7.859.400	201	41.002	6.054.801	148
LOFACO	3	Lofa	8.085	1.719.406	213	3.547	723.575	204	2.072	290.496	140
LOVCO (P)	2	Grand Cedeh	5.447	777.897	143	1.845	455.678	247	-	-	-
LTC (P)	1	Nimba	18.322	3.128.022	171	1.377	319.620	232	205	37.411	182
LTPC	4	Sinoe	113.990	25.189.015	221	49.254	7.677.700	156	49.910	7.564.242	152
MELCO (P)	3	Bomi	1.738	165.910	95	-	-	-	-	-	-
MLC	2	Grand Gedeh	16.390	2.473.081	146	14.549	3.940.196	271	22.402	4.132.192	184
MIM/FAT/Siga	1	Nimba	7.827	1.509.055	193	2.697	480.450	178	-	-	-
NACA (P)	2	Grand Gedeh	8.979	1.424.104	159	-	-	-	364	63.734	175
NIMBACO (P)	1	Nimba	9.657	1.626.037	168	2.638	579.818	220	986	154.352	157
NLC (P)	2	Grand Gedeh	946	85.445	90	351	-	-	-	-	-
TALINCO	3	Bomi	-	-	-	212	24.190	114	1.158	169.503	146
TALK/LLTC/BTC	1	Grand Basa	`12.042	1.959.194	163	9.036	280.464	31	1.370	180.339	132
TFC	3	Bomi	1.999	340.743	-	2.768	464.390	-	2.085	290.409	-
TOBBA (P)	2	Grand Gedeh	3.455	734.691	213	2.171	322.617	149	1.417	-	-
ULC	2	Grand Gedeh	13.696	2.955.518	216	11.130	3.331.045	299	2.290	-	-
VARJAN (P)	3	Bomi	255	50.669	199	-	-	-	162	24.257	150
WAFCO (P)	2	Grand Gedeh	-	-	-	2.947	582.372	279	5.831	1.136.744	195
WET/WLC	1	Nimba	574	118.284	206	301	67.166	223	504	75.150	149
YAH-RIVER	1	Grand Basa	508	87.850	173	306	129.397	423	23	5.500	239
CFC	1	Bong	-	-	-	122	-	-	-	-	-

(P) Inactive

ANNEX VII SAWNWOOD EXPORT, FOB PRICE AND UNIT FOB/M³ BY COMPANY

Company	Region	Country	1980			1981			1982		
			Export Volume	FOB Value	Unit FOB/M³	Export Volume	FOB Value	Unit FOB/M³	Export Volume	FOB Value	Unit FOB/M³
ALTCO	3	Lofa	3.844	676.346	176	3.073	762.839	248	2.499	533.166	213
BELL	2	Grand Gedeh	338	72.307	214	-	-	-	-	-	-
CAVALLA	4	Sinoe	1.163	306.934	264	853	268.952	315	-	-	-
CNC	1	Nimba	437	141.867	325	2.151	506.230	235	1.332	293.867	221
CPLC	2	Grand Gedeh	5.352	1.272.501	-	4.381	1.339.785	-	2.520	437.274	-
DUNEE	1	Nimba	-	-	-	30	9.252	308	-	-	-
GSC/GANTA	1	Nimba	34	6.284	185	-	-	-	-	-	-
LETCO	2	Grand Gedeh	579	155.439	268	408	125.101	307	111	31.405	283
LLWPC	2	Grand Gedeh	2.713	769.262	284	1.226	381.520	311	503	182.981	364
LTPC	4	Sinoe	6.779	1.981.394	292	3.418	1.044.679	306	4.300	1.142.272	266
BAC/PTP	2	Grand Gedeh	4.175	1.057.623	253	54	8.943	166	-	-	-
LIBCO	2	Grand Gedeh	144	54.251	377	2.308	780.257	316	3.074	911.892	297
LIWC/LWMC	3	Bomi	385	69.832	181	-	-	-	-	-	-
MIM/FAT/Siga	1	Nimba	580	152.951	264	240	48.279	201	491	147.522	300
NIMBACO	1	Nimba	2.440	568.719	233	48	10.705	223	-	-	-
TFC	3	Bomi	-	-	-	-	-	-	45	7.479	166
MLC	2	Grand Gedeh	6.318	2.067.756	327	5.392	2.429.510	450	13.282	951.625	72(*)
TALK/LTC	1	Grand Basa	24	6.572	274	78	26.297	337	62	13.322	215
LTC	1	Nimba	-	-	-	30	5.476	-	-	-	-
b) Plywood											
LTPC	4	Sinoe	1.390	499.362	359	2.132	567.104	266	-	-	-
WLC	2	Grand Gedeh	854	192.422	225	-	-	-	-	-	-
c) Veneer											
MLC	2		93.496	60.443(*)	-	-	-	-	-	-	-
d) Boules											
LTPC	4	Sinoe	183	66.365	363	-	-	-	-	-	-
CPLC	2	Grand Gedeh	-	-	-	60	23.432	391	-	-	-
LIBCO	2	Grand Gedeh	-	-	-	-	-	-	107	138.503	129
LIFC/LWMC	3	Bomi	518	105.453	204	-	-	-	-	-	-
CNC	1	Nimba	-	-	-	8	1.052	132	-	-	-
NIMBACO	1	Nimba	-	-	-	452	56.467	125	-	-	-
MLC	2	Grand Gedeh	150.339	37.585(*)	-	-	-	-	-	-	-

ANNEX VIII WOOD PRODUCTS – PRODUCTION, EXPORT AND IMPORT 1970 – 1981 (IN 1000 M^3)

Product/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Saw logs + Ven. Logs												
Production	220	319	402	524	409	464	605	755	599	756	745	745
Export	144	205	222	364	259	220	513	357	311	389	475	475
Import	-	-	-	-	-	-	-	-	-	-	-	-
Apparent processed wood	76	114	180	160	150	244	92	398	288	367	270	270
Sawn wood + sleepers												
Production	83	83	85	104	92	125	173	170	130	194	194	194
Export	1	1	3	4	2	23	8	17	38	68	45	45
Import	13	18	6	5	4	7	-	-	-	-	-	-
Apparent local consumption	95	100	88	105	94	109	165	153	92	126	149	149
Sawn wood												
Production	35	44	55	68	156	109	128	138	40	66	43	43
Export	1	1	3	4	2	23	8	17	38	66	43	43
Import	-	-	-	-	-	-	-	-	-	-	-	-
Apparent local consumption	34	43	52	64	154	86	120	121	2	-	48	48
Veneer sheet												
Production	-	-	-	-	-	6	3	3	3	3	5	6
Export	-	-	-	-	-	-	1	1	-	2	2	2
Import	-	-	-	-	-	-	-	-	-	-	-	-
Apparent local consumption	-	-	-	-	-	6	2	2	2	1	3	4
Wood-based Panels												
Production	-	-	-	-	-	-	3	3	7	17	9	9
Export	-	-	-	-	-	-	-	-	7	8	4	4
Import	-	-	-	1	3	2	2	2	2	-	1	1
Apparent local consumption	-	-	-	1	3	2	5	5	2	9	6	6

ANNEX IX COMPARISON OF PRODUCTION, EXPORTS AND IMPORTS (WOOD PRODUCTS)

Product/Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Plywood												
Production	-	-	-	-	-	-	3	3	7	15	7	7
Export	-	-	-	-	-	-	-	-	7	6	2	2
Import	-	-	-	-	2	2	2	2	1	-	-	-
Apparent local consumption	-	-	-	-	2	2	5	5	1	9	5	5
Sleepers												
Production	3	3	3	3	3	12	12	95	100	100	100	100
Export	-	-	-	-	-	-	-	-	-	2	2	2
Import	-	-	-	-	-	-	-	-	-	-	-	-
Apparent local consumption	3	3	3	2	3	12	12	95	100	98	98	98
Fibre Board Compressed												
Production	-	-	-	-	-	-	-	-	-	-	-	-
Export	-	-	-	-	-	-	-	-	-	-	-	-
Import	-	-	-	129	384	251	184	190	115	100	200	200
Apparent local consumption	-	-	-	129	384	251	184	190	115	100	200	200
Paper + Paper Board												
Production	-	-	-	-	-	-	-	-	-	-	-	-
Export	-	-	-	-	-	-	-	-	-	-	-	-
Import	1	1	1	1	2	2	2	3	6	3	3	3
Apparent local consumption	1	1	1	1	2	2	2	3	6	3	3	3
Printing + Writing Paper												
Production	-	-	-	-	-	-	-	-	-	-	-	-
Export	-	-	-	-	-	-	-	-	-	-	-	-
Import	-	-	-	-	-	-	-	-	1	1	1	1
Apparent local consumption	-	-	-	-	-	-	-	-	1	1	1	1

Source: FAO 1981 Yearbook of Forest Products (1970-1981)

ANNEX X FORESTRY SHARE IN FOREIGN EXCHANGE EARNINGS

Commodity/year/value million $	**1978**	**1979**	**1980**	**1981**
Iron ore	274.4	290.0	310.2	325.4
Rubber	69.2	87.8	102.2	86.8
Forest Products	54.8	58.6	72.5	36.8
Logs	**(46.7)**	**(50.1)**	**(65.3)**	**(32.5)**
Sawn Timber	**(8.1**	**(8.5)**	**(7.2)**	**(4.3)**
Diamond	30.0	39.6	33.5	23.4
Coffee	25.3	27.1	33.0	19.8
Cocoa	14.4	11.0	10.5	13.8
Palm Products	3.6	5.0	4.9	3.7
Re-export	8.8	10.6	25.6	12.5
Other Domestic	5.6	6.9	8.0	7.5
Total	**$486.4**	**$536**	**$600.4**	**$529.2**

ANNEX XI NATURAL FOREST MODEL OUTPUT

	01	02	03	04	05	06	07	08	09	10	11	12
A	FAO/ECA/UNIDO FIAG Computer Model for Management of Tropical Forests											
B	COUNTRY-LIBERIA											mjl13/6
C	========											
D	Year	1980	1985	1990	1995	2000	2005	2010	2015	2020	2025	2030
E												
F	FORESTS, Mha											
G	undistu	0.91	0.83	0.78	0.72	0.64	0.55	0.43	0.29	0.11	-.06	-0.33
H	logged	1.69	1.61	1.48	1.35	1.22	1.09	0.96	0.84	0.74	0.63	0.60
I	Tot Pro	2.60	2.44	2.26	2.07	1.86	1.64	1.39	1.13	0.85	0.57	0.27
J	Unpro	1.22										
K	Pro+UnP	3.82										
L	Undtlogd Mm3		0.40	0.25	0.30	0.40	0.45	0.60	0.70	0.90	0.85	1.35
M	COMRCL TIM,Mm3											
N	undistu	13.65	14.30	15.25	15.95	16.20	15.65	14.05	10.90	5.45	-2.90	-16.35
O	logged	8.45	8.15	7.75	7.15	6.35	5.25	4.05	2.65	1.30	-0.35	-0.45
P	Tot Cti	22.10	22.45	23.00	23.10	22.55	20.90	18.10	13.55	6.75	-3.25	-16.80
Q												
R	COMRCL TIM/ha											

	01	02	03	04	05	06	07	08	09	10	11	12
S	undistu	15.00	17.22	19.55	22.15	25.31	28.45	32.67	37.58	49.54	48.33	49.54
T	logged	5.00	5.06	5.23	5.29	5.20	4.61	4.21	3.15	1.75	-0.55	-0.75
U	Tot/ha	8.50	9.20	10.17	11.15	12.12	12.74	13.02	11.99	7.94	-5.70	-62.22
V												
W	EXTRACT Mm3/yr											
X	Total	0.34	0.24	0.34	0.46	0.63	0.86	1.17	1.60	2.17	2.95	4.01
Y	undistu	0.21	0.15	0.22	0.31	0.45	0.64	0.90	1.28	1.75	2.63	3.90
Z	logged	0.13	.09	0.12	0.15	0.18	0.22	0.27	0.32	0.42	0.32	0.11
AA												
AB	DEFORES THha/y											
AC	undistu	.03	.03	.03	.03	.04	.04	.05	.05	.05	.06	.06
AD	logged	29.97	32.97	35.97	38.97	42.96	46.96	50.95	53.95	56.95	59.94	62.94
AE	Tot def	30.00	33.00	36.00	39.00	43.00	47.00	51.00	54.00	57.00	60.00	63.00
AF												
AG	DEFORES Mm3/yr											
AH	undistu	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AI	logged	0.14	0.16	0.18	0.20	0.22	0.22	0.21	0.16	.09	-.03	-.04
AJ	Tot def	0.14	0.16	0.18	0.20	0.22	0.22	0.21	0.16	.09	-.03	-.04

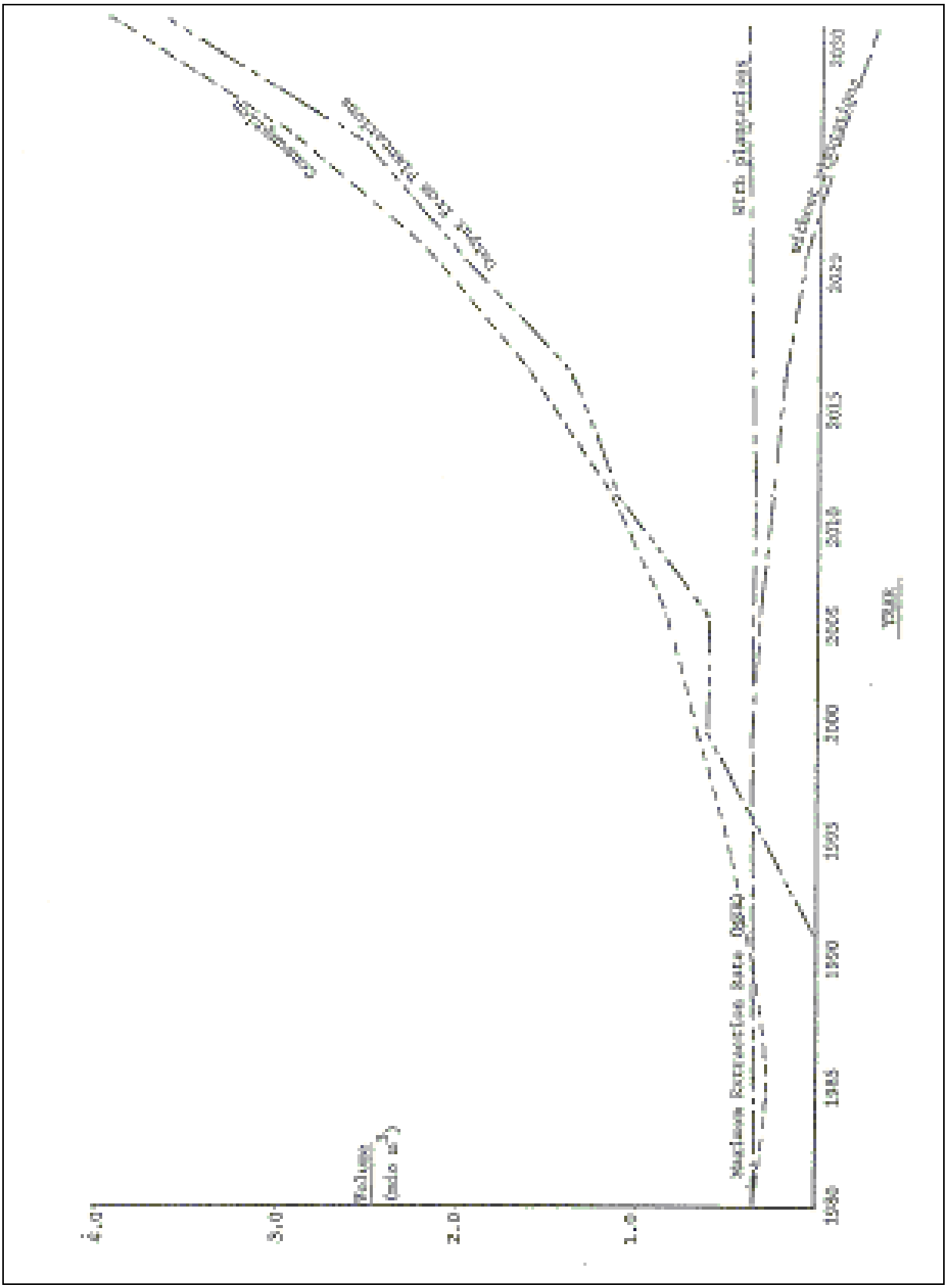
	01	02	03	04	05	06	07	08	09	10	11	12
AK												
AL	GROWTH Mm3/yr											
AM	undistu	0.21	0.22	0.24	0.25	0.25	0.24	0.21	0.16	.07	-.06	-0.29
AN	logged	0.13	0.12	0.12	0.11	.09	.08	.06	.03	.01	-.00	-.00
AO	Tot Grw	0.34	0.34	0.36	0.36	0.34	0.32	0.27	0.19	.08	-.06	-0.29
AP												
AQ	MER Mm3/yr											
AR	Tot MER	0.34	0.35	0.36	0.36	0.35	0.32	0.27	0.20	.08	-.07	-0.30
AS												
AT												
AU												
AV												
AW												
AX												
AY												
AZ												
BA												
BB												

ANNEX XII PLANTATION MODEL 1 OUTPUT

ANNEX XIII PLANTATION MODEL 2 OUTPUT

ANNEX XIV FOREST INDUSTRIES MODEL OUTPUT

ANNEX XV LOG SUPPLY/DEMAND BALANCE (1980 – 2030)



ANNEX XVI FINANCIAL DATA FOR LTPC

LIBERIAN TIMBER & PLYWOOD CORP.

P.O. BOX 2075
MONROVIA, LIBERIA

Telephone: 222984
Telex: 4290

March 9, 1984

Mr. Michael J. Lyons
Project Manager
FAO/ECA Forest Industries Advisory
Group for Africa
Monrovia, Liberia

Dear Mr. Lyons:

Attached please find documents relating to Liberian Timber & Plywood Corporation to assist you as per our discussion.

Kind regards,

Very truly yours,
LIBERIAN TIMBER & PLYWOOD CORP.

Clarence L. N. Weefur
RESIDENT MANAGER

CLNW/gms

HOW WE STAND ON JUNE 30, 1983

AS A RESULT OF THE PAST OPERATIONS (JULY 1/82 – JUNE 30/83), THE FINANCIAL STATEMENT AT JUNE 30,1983, SHOWED THE COMPANY:-

Owned Cash and Other Cash Accounts of:	$ 750,170.02
Was owed by Customers:	1,461,148.82
Had Machineries/Equipment, Parts & Supplies, Fuel & Lubricants needed for our next years' operation of:	2,830,433.28
Had Raw Materials, Products being manufactured and products ready for sale of:	1,237,645.65
Had paid in advance for insurance, Rent and other expenses:	122,722.32
AMOUNTING TO TOTAL CURRENT ASSETS OF:	$ 6,402,120.09
AGAINST THIS THE COMPANY OWED:	
To Employees for Wages and Salaries to Suppliers for Parts, Supplies and other expenditures needed for our operations:	$ 3,534,875.95
To Bank that provided us the facility of utilizing funds beyond our deposits:	1,286,603.74
TO Government for various Taxes of Income Taxes on salaries/wages, Development Progress Tax, others:	389,545.52
To our other sundry obligations:	399,208.06
LEAVING A WORKING CAPITAL OF:	$ 1,801,886.82
To this add the buildings, Concession Costs, M/C & Equipments, which originally cost $37,216,165.63 and against which depn & amortization of $15,420,552.64 has been provided to provided:	21,795,612.99
To Land:	80,000.00
MAKING A TOTAL OF:	$23,677,499.81
From this deduct the Long Term Debt on Export and Reforestation of our products of:	3,783,915.99
AMOUNT OWNED LESS AMOUNT OWED REPRESENT THE BALANCE OF THE COMPANY'S INTEREST:	$19,893,583.82

LIBERIAN TIMBER & PLYWOOD CORPORATION
BALANCE SHEET
AS OF JUNE 30, 1983 FISCAL YEAR

A S S E T S:			
CURRENT ASSETS:			
Cash on Hand	$ 22,200.15		
Savings & Time Deposit, C/Bank	487,609.01		
Citibank - Zurich	24.57		
Cash in Transit - Citibank	115,119.10		
National Housing & Savings Bank	155,217.19		
Receivables (Sch.G)	1,461,146.82		
Inventories (Sch.B)	4,068,078.93		
Pre-payments (Sch.C)	122,722.32		$ 6,402,120.09
FIXED ASSETS			
Buildings & Concession Cost (Sch."A")	$13,533,621.93		
	(3,240,515.82)	10,293,106.11	
M/C, Equip, Furnitures(Sch.A)	23,682,543.70		
Less: Accumulated Depn. & Amortization	(12,180,036.82)	11,502,506.88	
Land - Staff Housing		80,000.00	$21,875,612.99
TOTAL CURRENT & FIXED ASSETS			$28,277,733.08
LIABILITIES & S/HOLDERS' EQUITY			
CURRENT LIABILITIES:			
Accounts Payable (SCH,H)	$ 2,247,747.09		
Ministry of Finance (Sch.F)	309,936.39		
Accrued Salaries/Wages	277,128.86		
Citibank - Monrovia	1,285,929.74		
Citibank - N.Y.	674.00		
Other Liabilities (Sch.E)	478,817.19		$ 4,600,233.27
LONG TERM LIABILITIES (SCH. D)			
Forestry Development Authority	3,703,915.99		3,733,915.99
CAPITAL:			
Capital Stock	500.00		
Capital Reserve	25,800,336.00		
Less: Accumulated Deficit	(5,737,252.18)		
Reserve for Obsolescence - Parts & Supplies Inventories	(250,000.00		$19,893,583.82
TOTAL LIABILITIES AND S/HOLDERS' EQUITY			$28,277,733.08

PLANT, PROPERTY AND EQUIPMENT
SCHEDULE "A"

	ORIGINAL COST	ACCUM. DEPR.	NET BOOK VALUE
Concession Cost	2,993,312.00	1,072,092.00	1,921,220.00
Building; - Maint.W/shop	236,734.06	64,179.90	172,554.16
" - Utilities	1,555,539.00	417,569.46	1,137,969.54
" - Plymill	2,118,555.00	577,619.63	1,540,935.37
" - Sawmill	1,806,923.00	481,349.82	1,325,573.18
" - Sales/Shipping	391,308.00	96,241.64	295,066.36
" - Construction	282,737.00	64,177.92	218,559.08
" - C/Stores(Fuel Sto)	21,071.00	21,071.00	-
" - Maint./Warehouse	211,192.87	64,177.92	147,014.95
" - Administration	778,599.00	112,540.00	666,059.00
" - Ground Fence/Safety	105,364.00	32,089.94	73,294.06
" - Medical/Dispensary	207,341.00	64,177.92	143,163.08
" - Staff/Super/H-20	2,771,726.00	173,228.67	2,598,497.33
Work In Progress Building Const.	53,200.00	-0-	53,200.00
Land - Staff Housing	80,000.00	-0-	80,000.00
TOTALS	13,613,621.93	3,240,515.82	10,373,106.11

Heavy Duty Equipment	3,660,700.00	2,601,022.78	1,059,677.22
Utilities Vehicles	780,585.61	576,439.26	204,146.35
Maint. - Machineries & Equip.	290,433.00	290,433.00	-
Sawmill- " " "	3,864,459.00	1,373,175.80	2,491,283.20
Plymill- " "	8,020,500.47	2,309,763.90	5,710,736.77
Utilities " "	5,191,160.53	3,361,565.00	1,829,595.53
Central Stores " "	134,120.02	93,342.97	40,777.05
Construction " "	345,499.00	286,145.03	59,353.97
Office Furniture & Equip.	428,665.90	400,884.37	27,781.53
Communication equipment	3,992.00	3,992.00	-
Security Machineries/Equip.	119,645.17	77,769.34	41,875.83
Hospital Equipment	110,925.00	110,925.00	-
Housing Furniture & Fixture	723,049.00	685,824.57	37,224.43
Recreation Equipment	8,809.00	8,754.00	55.00
TOTALS	23,682,543.70	12,180,036.82	11,502,506.88

SCHEDULE "B" - INVENTORIES

Logs	745,674.73	
Lumber	304,779.75	
Veneer	9,137.70	
Plywood	81,886.50	
Glue	96,172.97	
General Hardware & Tyres/Tubes	159,026.03	
Heavy Equipment Parts	959,880.27	
Light duty equipment	973,466.77	
Office supplies	7,285.16	
Plymill Machinery Parts	119,327.88	
Sawmill/Shipping Machinery parts	79,130.21	
Utilities(Power house/Boiler) parts	91,581.35	
Construction Equipment Parts	5,348.22	
General Electrical Parts	68,504.47	
Power Saw Unit, Appliances & Radio Part	4,710.70	
Fuel & Lubricants	386,609.90	
Commissary Stock	91,065.51	
Rice	46,402.75	
Goods in Transit	87,614.06	
Obsolete Stock	480.00	4,318,078.93
Less: Reserve for Obsolescence		(250,000.00)
TOTAL (SCH.B)		$4,068,078.93

SCHEDULE "C" - RECEIVABLES
JUNE 20, 1963

Sundry Receivable (SCH. V)	52,706.12	
Trade Receivable (SCH.IV)	1,293,758.05	
Employees'Receivable	69,366.37	
Insurance claim receivable	45,318.28	$1,461,148.82