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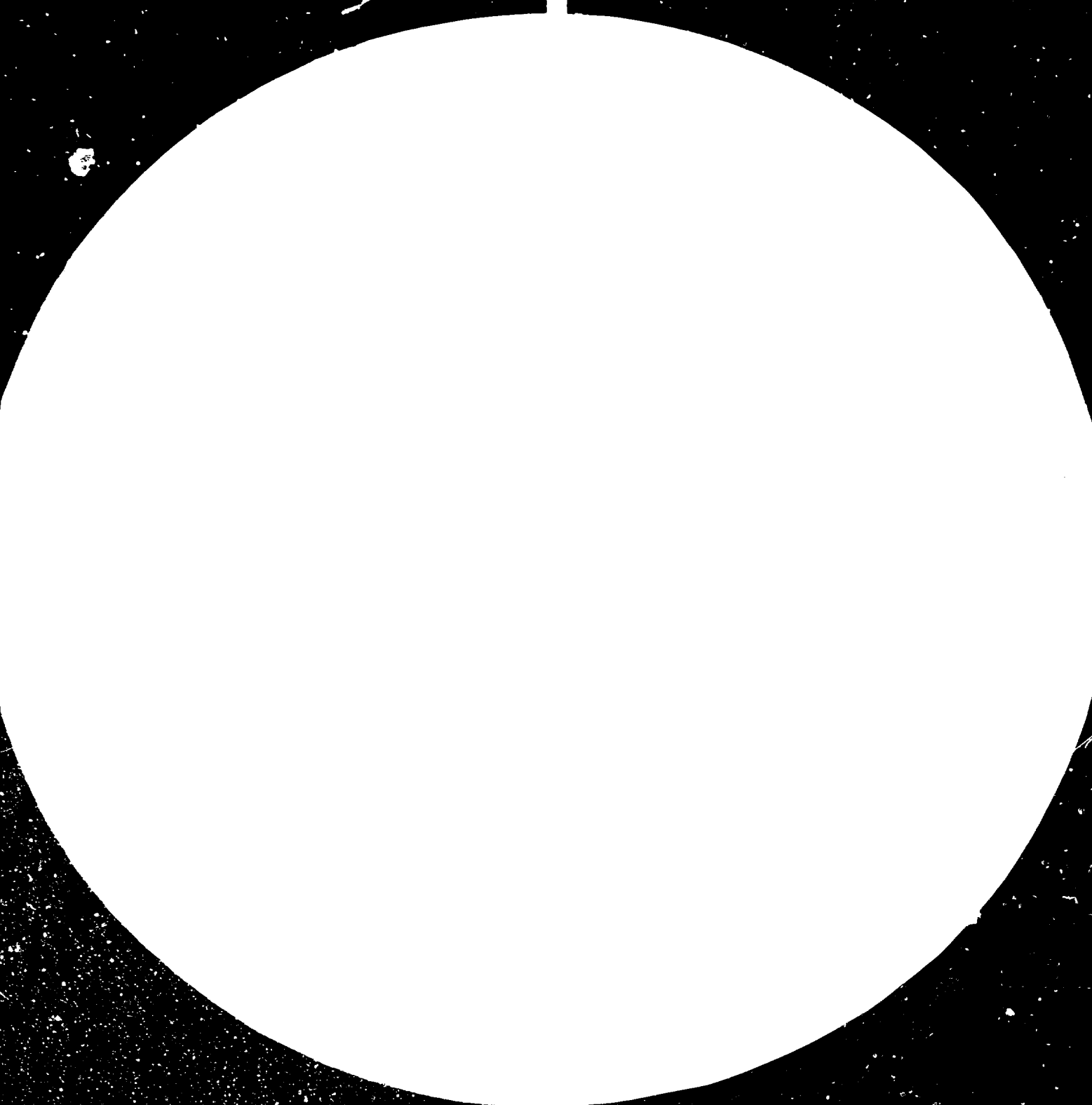
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BRIEF NOTES ON THE WOOD AND
WOOD PRODUCTS INDUSTRY OF ETHIOPIA *

by

Kifle M. Zerom**

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I INTRODUCTION

The purpose of this paper is to briefly present the current setting and future development prospects of the wood and wood products industry in Ethiopia.

To start with, the basic features of the foundation of the industry (i.e. the forest resource of the country) are set out. This is then followed up by an exposition of the industry's organizational or institutional framework, manufacturing and market characteristics, with due emphasis on the basic factors or constraints currently determining its present setting and those inhibiting the full exploitation of its development potential as well as on corrective measures that need be undertaken.

II FOREST RESOURCES

The forest resource of Ethiopia is composed of natural and man-made forests, the former having a predominant share of the total. However, although, relatively speaking, there is a rough or approximate estimate of the area covered by the man-made or plantation forests, the figures frequently quoted for natural forests covered land mass are highly unreliable. This unfortunate situation results from the out-dated and extensive nature of the surveys so far carried out.

Nevertheless the forest covered land mass is estimated at about 4.3 million ha or about 3.5% of the total land area (i.e. about 122.2 million ha) of the country. As compared to estimates given for some some hundred years ago, that is, about 40% or 48.9 million ha, the current situation is quite alarming. This serious situation is foreseen to further worsen as a result of the high rate of deforestation (estimated at about 200,000 ha per year) that is currently taking place, which rate is calculated, unless corrective measures are taken on time, to deplete the current forest resources of the country within 20 years.

Aware of the alarming rate of forest resource depletion of the country and its apparent many negative repercussions (wind and flood erosion, ecology disturbance, wild animals and birds extinction) on the development of the country, the Government of Socialist Ethiopia has given top priority to the conservation and development, and particularly the rational utilization of the forest resources including reforestation and afforestation, through the involvement and participation of the concerned government and mass organizations. The level of awareness of the grave nature of the forest resource depletion and the top priority it deserves in the country's development programme has been once again underscored during the Second Regular Plenary Meeting of the Central Committee of COPWE (February 1981).

1. Natural Forests

The indigenous trees of Ethiopia are said to be composed of some 200 sub-tropical species out of which about 10 only are widely used in the wood and wood products industry. They are commonly grouped under four categories :-

- conifers
- merchantable hardwoods
- potentially usable hardwood, and
- other species.

Out of these species the first two are of primary interest. Whereas conifers consist of Podocarpus Gracilior (Zigba) and Juniperus Procera (Tid), merchantable hardwoods are composed of Aningeria Adolffriedrici (Kerero), Apodytes Dimidiata (Donka or Yalaka), Cordia Abyssinica (Wanza), Croton Macrostachys (Bisana), Ekebergia Capensis (Sombo), Hagenia Abyssinica (Koso), Olea Spp (Weira), Polyscias Fulva (Zingero Wenber), Syzygium Guineense (Dokima), Albizia Spp (Sasa).

Most of the forest areas are located in the southwestern and southcentral part of the country. It is estimated that there are roughly about 2,345,000 ha of closed forests in these areas with about 20% broad leaved and about 20% only accessible.



NATURAL
FOREST



REAFFORESTATION TERRACES

It is also estimated that there are about 400,000 ha of scattered forests and about 28 million ha of open savannah type woodlands dominated by Acacia trees. The latter are used for grazing and agricultural cultivation. The Acacia trees are the common source of fuelwood for the countryside and charcoal for the urban centers. The bamboo stand cover which is mainly found in the west of the country is estimated at about 450,000 ha.

2. Man-Made Forests

Man-made or plantation forest of the country is composed of exotic and indigenous species. The exotic species include Eucalyptus Globulus (Bahr Zaf), Cupressus Lucitanica (Yeferenj Tid), and Pinus Patula (Patula). The indigenous species on the other hand include Juniperous Cordia (Tid) and Hygenia (Kosso).

The plantation forest coverage has been recently estimated to be about 400,000 ha. These plantations are found in many parts of the country with about 80,000 ha in major urban centers. They are owned by the government and peasant associations and are mainly used for soil protection and timber production for fuel, house construction and industrial processing such as particle board, fibre board and impregnated poles.

Mention must be made at this juncture that fuelwood accounts for the bulk of wood consumption in Ethiopia, with a usage of about 20 million m³ and 150,000 tons of fuelwood and charcoal respectively per annum.

III THE WOOD AND WOOD PRODUCTS INDUSTRY

1. Organizational/Institutional Framework

At present wood and wood products processing activity is being carried out by public as well as private organizations.



MAN-MADE OR



- 7 -

PLANTATION FOREST

The public or government organizations include the Ministries of Agriculture, Industry, Education, Construction, Transport and Communications, Mines and Interior (Prisons Administration). However, whereas those under the Ministries of Agriculture and Industry are organized on a commercial basis, those under the rest mainly cater for the internal requirements of their respective Ministries. Hence reference to public establishments in the wood and wood products industry is limited to the former two Ministries' activities.

At the present the industry is composed of 73 establishments with 10 and more workers each and power driven equipment. Out of these 33 are run by the Government. Although there is no accurate data as to the number and turnover of smaller establishments (with less than 10 workers) according to HASIDA'S (Handicrafts and Small Scale Industries Development Agency) latest surveys (1979 and 1980) they number about 180.

The establishments under the Ministry of Agriculture are run by its autonomous organ, that is, the Forestry and Wildlife Conservation and Development Authority (FaWCDA). The majority of the establishments currently run by FaWCDA are sawmills (19) with the remaining (2) being joineries and small scale furniture activities. The Forest Products Marketing and Processing Corporation is entrusted with their administration.

On the other hand those establishments coming under the Ministry of Industry - that is, those under the Ethiopian Woodworks Corporation - comprise 10 enterprises including sawmilling (5) and wood based panels (plywood, particle board and fiberboard), joinery and furniture manufacture.

2. Wood Processing

The total production of the industry is estimated at about 40 million Birr with a value added at market price of about 21 million Birr.

2.1 Primary Wood Processing

Sawmilling

The capacity of the sawmills currently in operation is estimated at about 220,000 m³ of logs per annum. However their actual log consumption does not exceed 150,000 m³ of logs in line with the rational utilization of forest resources policy of the Government.

The majority of them have been in operation for more than 20 - 30 years and were already old or second hand when they were installed. They are also dispersed and often still located far from the current forest resource areas. These negative factors coupled with the absence of sawdoctoring capability has made their production level low.

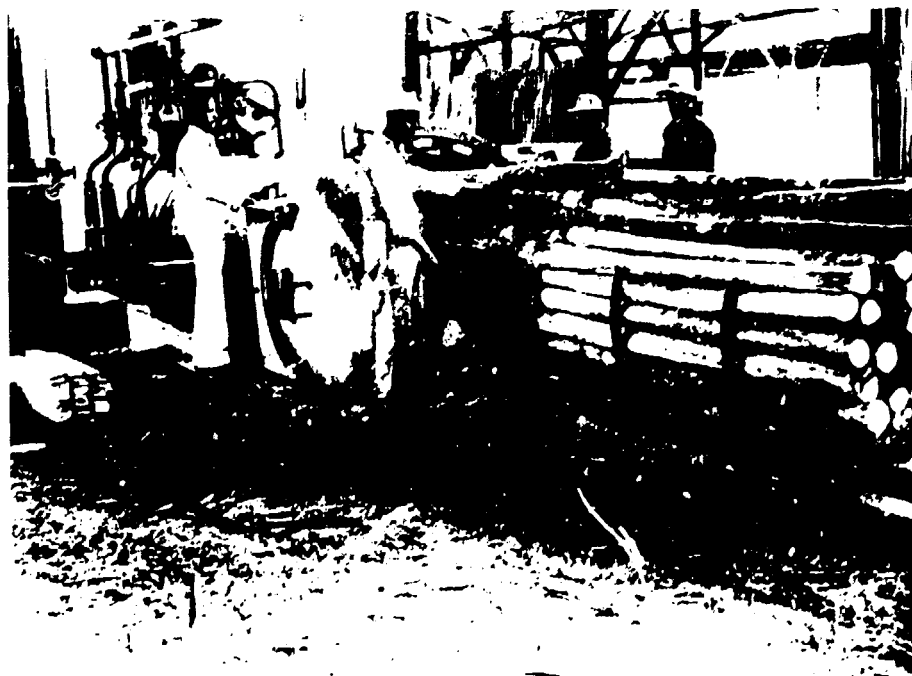
The low performance of the sawmills and the need for the economic use of the scarce forest resource has thus called for the critical examination of the sawmilling activity in the country including, among others, of closing down some of them, introduction of an efficient maintenance system and saw doctoring and the consideration of installing new or modern mills at strategic forest sites.

Plywood

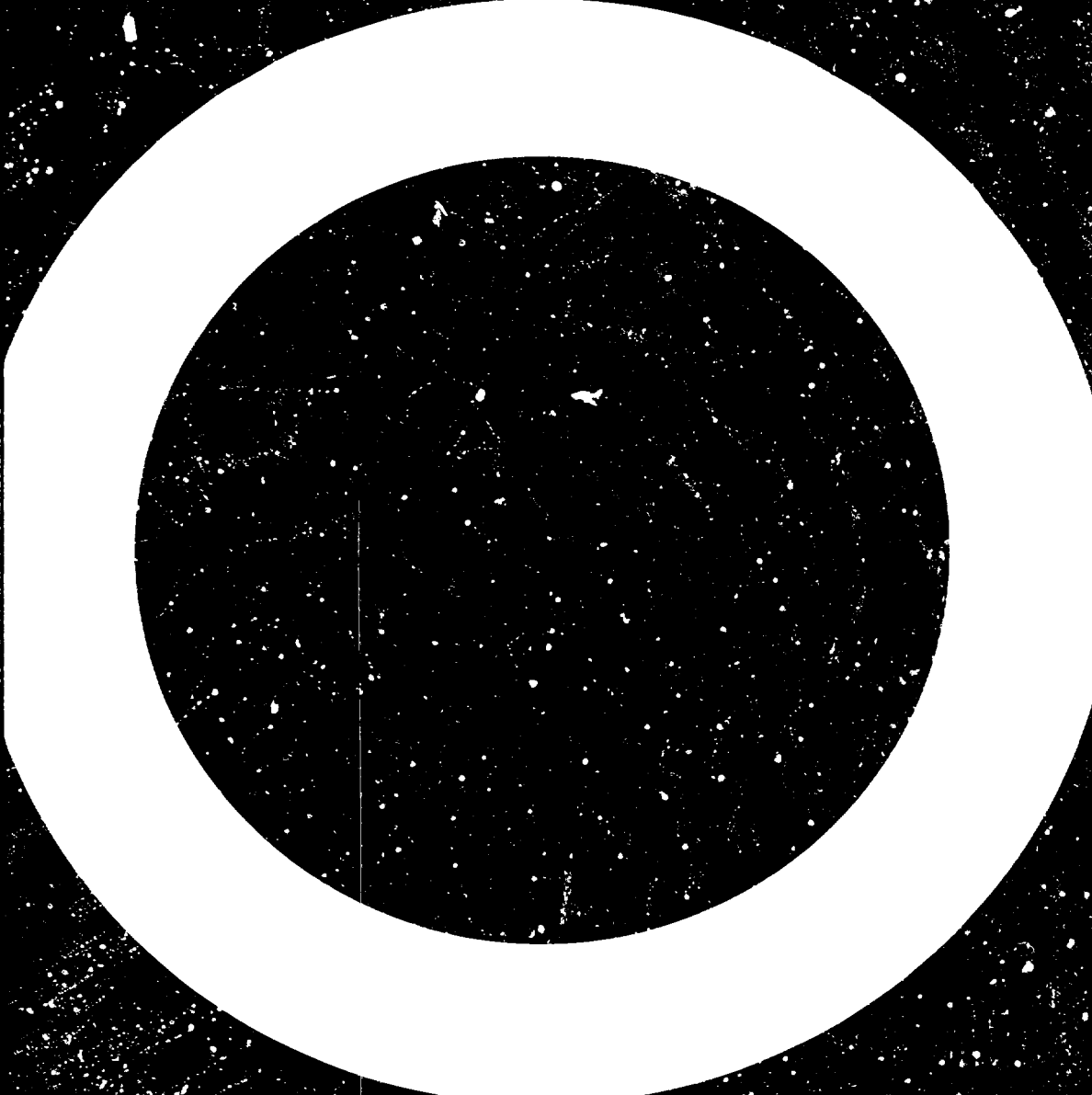
Plywood is currently being produced in the country by the Ethiopian Enterprises (Plywood) Factory's branch plants located at Jimma and Addis Ababa. Although the original production capacity of these plants is said to have been about 6,000 m³ per annum, their present production, including the seat and back produced by the Addis Ababa plant, is about 2,600 m³ only due to a number of drawbacks including obsolete machinery, frequent mechanical breakdown, periodic shortage of logs and lack of skilled manpower. Such drawbacks, however, are more persistent at the Addis Ababa plant. Consequently a study regarding its rehabilitation and relocation has been prepared. The project study recommends the erection of a peeling lathe in Sijmo (Illubabor

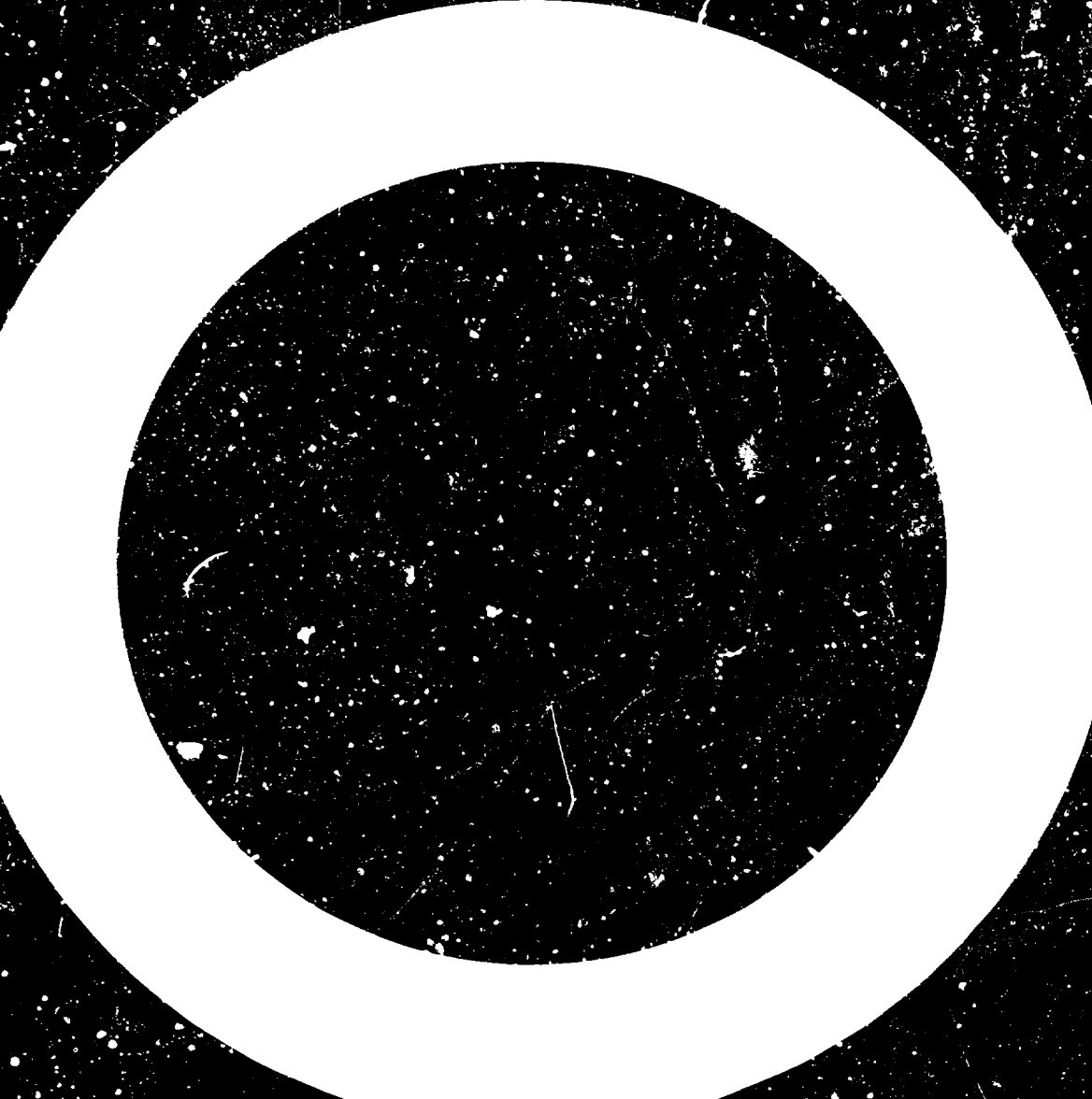


AIR DRYING OF LUMBER



IMPREGNATION OF EUCALYPTUS POLES





The need for the rational utilization of the country's dwindling forest resource has also brought forward for serious consideration the question of erecting a cement bonded particle board plant. This product is envisaged to replace partly - if not completely - the current usage of particle board in the manufacture of prefabs and other buildings and release it for use in furniture plants, which apparently will need increasingly to depend on it as a result of the limited availability of solid wood. The cement bonded particle board plant project includes a system designed modular element construction unit.

2.2 Secondary Wood Processing

Carpentry and building components

The two major plants currently engaged in the production of carpentry and building components are ECAFCO and Wanza Woodworks. Whereas the former specializes in particle board prefab construction, the latter's activity includes limited scale construction of wooden houses. ECAFCO's prefab department's capacity is estimated to be more than 11,000 m² of floor area per annum.

Joinery

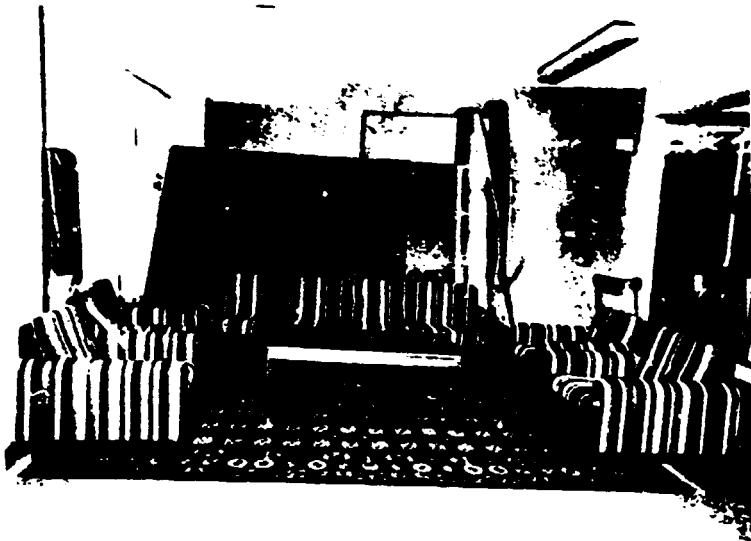
Joinery products are produced in fairly large quantities in Wanza Woodworks and the two joineries under the Forest Products Marketing and Processing Corporation of FaWCDA. The combined annual production of these plants is estimated at about Birr 5 million.

Furniture

Major furniture manufacture in the country takes place within the six plants under the Ethiopian Woodworks Corporation.

The range of furniture manufactured by these plants includes household, office, school and hospital furniture. Their annual combined output is calculated to amount to about Birr 10 million.

Owing to their historical development, the plants lack much of what is desirable to cope with the increasing demand for furniture in the



LIVING ROOM

DINING ROOM

BED ROOM

FURNITURE



country. Accordingly a study is already underway leading to the rationalization of the plants. For the same valid reasons, the study also covers the joinery activities mentioned above.

3. Market

Domestic

Overall domestic demand for the products of the industry during the last few years has been marked by sustained increase. The main factor contributing to this trend is the socio-economic development campaign taking place in the country. As a result the gap between demand and supply has kept on widening.

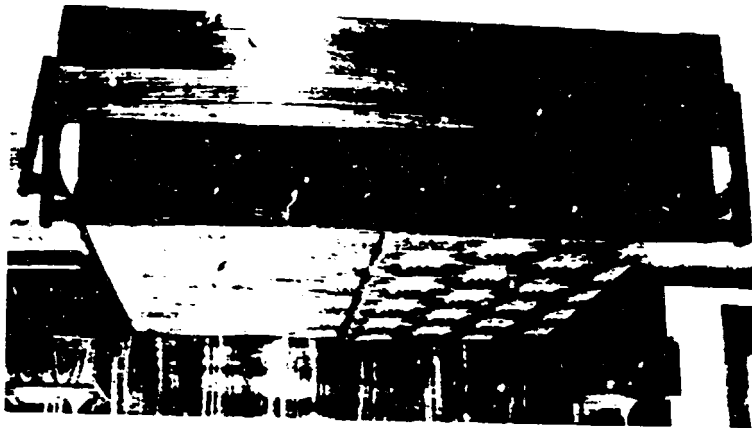
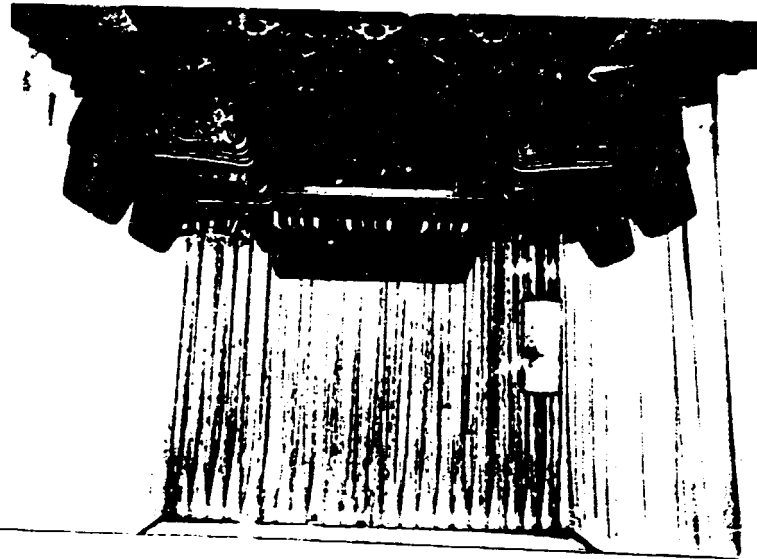
The "apparent" demand of the country for the industry's products is estimated at about Birr 43 million.

However, this figure does not reflect the true volume of demand which is estimated to be far greater.

Foreign

Ethiopia has very little experience in the export marketing of the industry's products. Efforts so far are limited to occasional contacts with potential customers and participation in the All Africa Trade Fair in Khartoum. Consequently export sales of Ethiopian wood and wood products are very small amounting to about Birr 1 million (or about 0.15% of total exports) per annum.

The advantage which the country has in its's strategic location vis-a-vis the rich markets of the Gulf has not yet been exploited to the extent that it could. This fact thus calls for a serious examination of this potential through the rational utilization of domestic resources in the field and deploying maximum efforts for a sustained penetration in these markets.



FURNITURE
LIVING ROOM
AND
BED ROOM

IV SUMMARY AND CONCLUSIONS

The main features of the Wood and Wood Products Industry in Ethiopia and constraints currently inhibiting its development could be briefly summarized as follows.

- Forest Base

- . The forest resource of the country has been subject to an alarming rate of depletion during the last few decades resulting in the present small allocation of logs for primary wood processing.
- . The Government has given top priority to the conservation and development of the forest resource of the country. This implies need for substantial financial allocation, specialized know - how etc.
- . Although the indigenous trees of Ethiopia are said to be composed of some 200 sub-tropical species, about 10 only are used in the industry. Consequently these species are fast depleting. Less popular species deserve special attention since they will have to be used in large quantities in the future. This in turn calls for the strengthening of research on these species with special emphasis on grouping together species which have characteristics sufficiently similar to be treated as one.
- . The large amount of forest residues and abundant variety of straw and grass available in the country has been the subject of a recent FAO preliminary technical study which is expected to be further improved upon and supplemented by an in depth analysis on its economic viability aspect.

- Wood Processing

- . The majority of the plants in the industry are very old. Consequently their machinery and pieces of equipment are obsolete and subject to frequent mechanical breakdown. In the majority of cases they do not also have sufficient

maintenance facilities; the saw doctoring need is particularly acute.

- . The supposedly "abundant" raw material resource of the industry, i.e. wood, is in reality quite "scarce" at present. Yet the waste involved with respect to this "scarce" resource is very high and its economic usage very low. Hence the establishment of plants depending on relatively small volume of wood (e.g. cement bonded particle board) need to be considered.
- . As it is quite common in similar activities the industry suffers from a shortage of skilled manpower.
- . The production quality of the industry, especially pre-fab and furniture, is considered to be relatively high according to experts in this field. Nonetheless there is also a general feeling that there is still room left for further improvement especially for a country aiming at penetrating rich foreign markets where a wide variety of quality furniture is in abundance.
- . The poor plant layout, obsolete machinery and equipment and low installed capacities of the plants in the industry are serious bottlenecks that need to be overcome in order to keep up with the continuously growing domestic demand and to produce surplus for export sales.

Market

- . In depth and up-to-date analysis regarding the domestic market for the products of the industry are lacking.
- . Standardization of the industry's product has to be further strengthened.
- . As far as international marketing is concerned, the efforts so far exerted in promoting Ethiopian products of the industry are exceptionally low. Accordingly this is an area which should be given special attention so as to take advantage of the strategic position of the country.

Table 1

BASIC DATA REGARDING WOOD AND WOOD PRODUCTS INDUSTRY OF ETHIOPIA

	UNIT	1977/78			1978/79			1979/80		
		Public	Private	Total	Public	Private	Total	Public	Private	Total
Number of establishments	No	11	66	77	17	60	77	23	45	68
Gross value of production	'000	15834	11090	26924	22482	13824	36206	23245	13691	36936
As % of manufacturing Industry		-	-	2.4	-	-	2.2	-	-	1.8
Value added (market price)	'000	9347	5958	13310	10821	6484	17305	13061	6399	19460
Value added (factory cost)	'000	8616	5481	13997	9912	5687	15599	11681	5449	17130
Number of persons engaged	No	1409	3084	4439	2419	2907	5326	3042	2252	5294
As % of manufacturing Industry		-	-	6.7	-	-	6.9	-	-	6.9
Total labour cost	'000	3454	3674	7128	4937	4176	9113	6403	3713	10116
As % of manufacturing Industry		-	-	5.4	-	-	5.8	-	-	5.9
Fixed assets	'000	3611	2670	6286	4052	2853	6905	8342	2533	10875
As % of manufacturing Industry		-	-	2.0	-	-	1.9	-	-	2.9

Source: Central Statistical Office - Statistical Bulletins on "Results of the Survey of Manufacturing Industry"

Table 2 WOOD AND WOOD PRODUCTS INDUSTRY
1982/1983 MINISTRIES OF INDUSTRY AND AGRICULTURE
PRODUCTION PLAN AND REGIONAL DISTRIBUTION
(MILLION BIRR)

Administrative Region	Ministry of Industry		Ministry of Agriculture		Total	
	Birr	%	Birr	%	Birr	%
Shoa	17.7	73	5.0	47	22.7	65
Keffa	3.5	14	2.2	20	5.7	16
Eritrea	2.6	11	-	-	2.6	8
Harerghe	-	-	2.1	20	2.1	5
Arsi	-	-	1.4	13	1.4	4
Sidamo	.4	2	-	-	.4	1
Total	24.2	100	10.7	100	34.9	100

Table 3 WOOD AND WOOD PRODUCTS INDUSTRY
1982/1983 MINISTRIES OF INDUSTRY AND AGRICULTURE
TOTAL EMPLOYMENT AND REGIONAL DISTRIBUTION

Administrative Region	Ministry of Industry		Ministry of Agriculture		Total	
	NO	%	NO	%	NO	%
Shoa	1383	73	509	46	1892	63
Keffa	310	16	220	20	530	18
Harerghe	-	-	189	17	189	6
Arsi	-	-	182	17	182	6
Eritrea	125	7	-	-	125	4
Sidamo	72	4	-	-	72	3
Total	1890	100	1100	100	2990	100

