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Forestry Bulletin No. 23: Timber Sales Contracts for Latin America

Seymour I. Somberg
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TIMBER PRODUCTS SALE PERMIT

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TIMBER SALES CONTRACTS FOR LATIN AMERICA

SEYMOUR I. SOMBERG

TIMBER SALE CONTRACT

NATIONAL FOREST

RANGER DISTRICT

SCHOOL OF FORESTRY

STEPHEN F. AUSTIN STATE UNIVERSITY

NACOGDOCHES, TEXAS

BULLETIN 23

APRIL 1972

Price \$1.50

**TIMBER SALES CONTRACTS
FOR
LATIN AMERICA**

SEYMOUR I. SOMBERG

SCHOOL OF FORESTRY

STEPHEN F. AUSTIN STATE UNIVERSITY

**NACOGDOCHES, TEXAS
75961**

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S.I.S.

Nacogdoches, Texas
February 25, 1972

INTRODUCTION

Few Latin American nations are making optimum use of their forest resources as a basis for industrial development. At the same time, many of these nations are in need of such development to provide wages, salaries and business opportunities for their people, as well as products for use at home and for sale abroad. Forests are among those unique resources which are renewable and, if properly managed, especially desirable because industries founded on them can be assured a perpetual supply of raw material.

Better use of forest resources involves many factors, including markets, transportation, trained foresters, and the establishment of manufacturing plants to produce finished products for sale abroad or for use locally. When timber is sold as logs to be manufactured overseas, local benefits are limited to the payments for stumpage, the wages paid wood workers, and perhaps some transportation charges on a low value product. If this wood can be manufactured locally, the country of origin not only receives these benefits, but also the much greater benefits from wages and salaries paid for the manufacturing, as well as the many subsidiary benefits from such an expansion of the economy. In the State of Texas, U.S.A., it is estimated that for every \$1000 worth of stumpage harvested, products worth at least \$25,000 are produced.

All nations with adequate forest resources, or suitable land on which forests can be produced, can add to their economic activity by developing wood manufacturing enterprises. Such developments could be particularly helpful to nations whose per capita income is low and dependent mainly upon a single agricultural commodity. Hardships which result when such a crop fails, or when world prices are low, will be less severe if many people earn their living from a forest industry. Other benefits, including a broader tax base, reduced need to spend money abroad to import manufactured wood products, and added foreign exchange from sale of wood products abroad, all tend to increase prosperity and raise the local standard of living.

In the past many nations have had little information about their forest resources and have lacked the necessary professional foresters to inventory and manage this resource. Much timber has been exported as logs with little benefit to the nations where the trees were grown. Capital has rarely been available for building the transportation systems and manufacturing plants needed to best serve the national economy.

As Latin American nations acquire better inventories of their forest resources, and professional organizations to protect and manage them, sound financial investments in wood manufacturing industries will be beneficial in many ways to the national economies. This publication considers the nature of sales agreements with prospective timber purchasers and some aspects of long-term sales contracts which can help make developments mutually beneficial to the purchaser and to the national economy.

Sawn lumber imported to Latin America cost \$78,799,000 (U.S.) in 1969. The value received from exported logs is relatively low.

Exports of forest products amounted to \$109,496,000 (U.S.), more than 70 percent of which was produced in Brazil. Exclusive of Brazil, Latin America had a trade deficit in forest products of more than \$46 million (U.S.). Latin American nations can ill afford high trade deficits for products that could be manufactured in their own countries. Timber sales which involve local manufacturing can reduce this deficit in the balance of payments for forest products.

Price is one of the controlling factors in exporting forest products. In the field of international trade, it is the nation with a comparative advantage in a particular product that will be the exporter of that product. Many Latin American nations would not have to shift workers from other forms of production to forest production. Thus they would attain a comparative advantage by giving work to the unemployed and underemployed, especially those engaged in subsistence agriculture.

LATIN AMERICAN WORLD TRADE IN FOREST PRODUCTS

Latin America, as a whole, is presently a net importer of forest products. In 1959, Latin America produced 11,698,000 M³ of sawn lumber but consumed 13,560,000 M³, or a deficit of more than 2 million cubic meters.¹ This situation will continue until domestic production of forest products is increased to a point where internal demand for these products can be satisfied.

During the last decade both the importation and exportation of sawn lumber and logs have risen. From Table 1 it can be seen that Latin America, exclusive of Mexico, was a net exporter of sawn lumber and logs. South America was a net exporter of both logs and sawn lumber while Central America was a net importer of sawn lumber and a net exporter of logs. It should be pointed out that one South American nation, Brazil, accounted for 60 percent of all sawn lumber exported from the entire Latin American area and 81 percent of all sawn lumber exported from South American countries. Based on data presented by FAO, Brazil is a net exporter of sawn lumber. Latin America, excluding Brazil, is a net importer of sawn lumber (551,000 M³) and a net exporter of logs.

¹Latin American Timber Trends and Prospects. FAO/UN/LAFC-62/S, 1963.

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Table 1. Volumes of Forest products, Latin America excluding Mexico, 1959-1968¹

	Year									
	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968
	1000 M ³									
Production of Sawwood										
Central America	2,183	2,213	2,076	2,137	2,527	2,931	2,914	3,036	3,142	3,152
South America	9,288	8,984	9,261	9,772	8,788	9,512	9,679	10,420	10,526	10,900
Total	<u>11,471</u>	<u>11,197</u>	<u>11,337</u>	<u>11,909</u>	<u>11,315</u>	<u>12,443</u>	<u>12,593</u>	<u>13,456</u>	<u>13,668</u>	<u>14,052</u>
Exportation of Sawwood										
Central America	382	367	311	292	282	339	341	476	512	580
South America	1,048	1,093	1,295	1,040	1,000	1,359	1,458	1,496	1,337	1,686
Total	<u>1,430</u>	<u>1,460</u>	<u>1,606</u>	<u>1,332</u>	<u>1,282</u>	<u>1,698</u>	<u>1,799</u>	<u>1,972</u>	<u>1,849</u>	<u>2,226</u>
Importation of Sawwood										
Central America	494	388	399	454	444	531	554	645	627	660
South America	700	728	1,018	714	640	815	930	941	800	798
Total	<u>1,194</u>	<u>1,116</u>	<u>1,417</u>	<u>1,168</u>	<u>1,084</u>	<u>1,346</u>	<u>1,484</u>	<u>1,585</u>	<u>1,427</u>	<u>1,458</u>
Exportation of Logs										
Central America	89	77	88	78	49	59	48	49	26	29
South America	264	275	310	272	271	401	526	533	401	400
Total	<u>353</u>	<u>352</u>	<u>398</u>	<u>350</u>	<u>320</u>	<u>460</u>	<u>574</u>	<u>582</u>	<u>427</u>	<u>429</u>
Importation of Logs										
Central America	29	29	9	12	3	8	15	30	27	8
South America	327	329	334	266	232	252	367	334	291	278
Total	<u>356</u>	<u>358</u>	<u>343</u>	<u>278</u>	<u>235</u>	<u>260</u>	<u>382</u>	<u>364</u>	<u>318</u>	<u>286</u>

Source: Yearbook of Forest Products - FAO/UN 1968

¹Sawn products quantities are net sawn volumes; quantities for logs are round wood measure.

CONTRIBUTIONS AVAILABLE FROM FOREST RESOURCES

A timber cutting contract, well planned and well managed, can be beneficial to a nation in at least three important ways. These include direct payments for stumpage and taxes, improvement in the national balance of trade, and enhancement of the national economic base. In addition, the development of transportation routes and the organization of the forests for growth of the more valuable timber species may further build up the capacity of the forests to contribute to the national welfare.

Direct income will be partly in the form of stumpage payments, area payments and/or royalties received by the granting nation. These are "fixed" incomes and can be counted on when the government prepares its budget. In addition, depending upon local situations and terms of the agreement, the government often receives various additional revenues, such as personal income taxes, and import and export duties. Furthermore, a forest products industry tends indirectly to increase the sources of governmental income. Once the primary industry is established, supporting and service industries will follow. These new and additional establishments afford additional sources from which the government will receive benefits in the form of business or property taxes.

The benefits from direct payments to a national government are obvious. Such payments may be used directly by the government to pay parts of the costs of the services and improvements it provides for its people; they are available either to reduce taxes paid by inhabitants or to provide increased services or facilities without increasing the costs to the people.

Less apparent, but sometimes much more important, are the total effects of a forest products manufacturing enterprise on the nation's balance of trade. People of every nation have needs for products which they can best purchase from foreign sources. They pay for these products in money, usually their local currency. The nation would soon deplete its supply of money, however, if it did not export some of its own products to other countries. International trade involves many individuals and companies in many countries; essentially, however, everything a nation imports must be paid for by the export of an equal value in goods or services.

The value of a forest products enterprise to a nation is not limited to direct payments to the national government for stumpage or cutting rights. Much more important is the net value of the products sold in the international trade, because the nation's ability to buy goods from abroad is increased by this amount. In other words, except for the profit retained by the manufacturer and costs paid outside the granting nation, the entire value of the output from an exporting enterprise becomes **foreign exchange**, and contributes to the improvement of the nation's balance of trade.

Thus the direct payments made to the government for standing trees may be \$7 (U.S.) per cubic meter; if this timber is manufactured locally into plywood, however, its value in international trade may

be perhaps \$100. If profit and investment repayments amount to \$20, the increase in the nation's ability to trade abroad is not \$7 but \$80. This is money that the contracting company has spent for salaries, wages, materials and other services to raise the value of its product from the stumpage value of standing trees to the value of finished plywood. While most of this money is spent for locally produced food, materials, and services, in the course of trade it helps employ other people who work only within the local economy, and eventually balances their necessary purchases of foreign goods.

These relationships make it highly desirable that a nation's wood be manufactured within the nation, to the most refined and valuable products that may be feasible. In this way the sale of timber makes an optimum contribution to the nation's trade balance at the same time it affords wages and salaries to persons who otherwise would have fewer opportunities for employment, or perhaps none at all.

Forest industries differ in their contribution to the foreign exchange and the national economy. Industries which employ large numbers of people generally contribute more than those where manufacturing is largely automatic. In highly automated industries a high proportion of manufacturing cost is often required for the amortization of capital, which does not contribute to the local economy, if the capital came from abroad. Industries should have efficient machinery to be competitive in international trade, but those which also employ moderately large numbers of people are usually most beneficial.

Industries producing finished products may also benefit a nation by making available products that otherwise would have to be imported. Such products, sold within the nation, do not add to foreign exchange, but are as useful to the nation's trade balance because they reduce the need for foreign exchange to pay for imports of forest products. Thus a sawmill which can produce finished lumber at a lower price than imported lumber of equal quality reduces the cost of lumber to local users, provides employment for national citizens, and at the same time improves the national balance of trade by reducing imports.

Beyond all these benefits, a forestry industry, like any new industry, adds to the national economy not only directly by the value added in the manufacturing of raw materials, and in wages and benefits to workers, but also indirectly by stimulating current retail and service industries needed to supply the new workers. In addition, new businesses will be established to provide goods and services to this new industry, in the form of parts, machinery, repairs, chemicals and sundry supplies. Further benefits accrue to the nation in the form of new roads and better transportation for the products of the new industry and indirectly for use by all the people and commerce of the country. In the case of forest industries, this new and improved transportation would open previously inaccessible areas for all. In the end the effect of any new industry would provide employment for workers of that industry and employment for many others who

would now be in a position to purchase products produced by the industry as well as other products produced in that nation.

Labor-intensive industries, such as those in many phases of forest production, give employment to a large number of people, placing money into the income stream that filters throughout the entire economy. This multiple effect of wages paid workers, especially in developing economies, is widely recognized. Equitable contracts provide for fair and adequate wage schedules, including wage increases as workers increase their productivity. Good contracts also require training programs to make it possible for the worker to elevate himself from jobs of common labor to responsible positions, thus raising his standard of living, increasing his dignity and adding to the economy of his country.

GUIDES FROM PAST EXPERIENCE

Most Latin American nations have attempted, in the past, to exploit the resources of their forest lands through the granting of concessions. Few of these attempts have been successful. In many cases, no timber was ever harvested, the concession being used only for speculation. In others, only a few choice species were removed, the nation received only a small part of the value harvested, the profits went to other countries, and necessary good forestry practices were neglected. Usually the operation was temporary, little or no manufacturing was done locally, no permanent industry was established, and benefits to either the national government or the local economy were minimal.

Some Defects of Most Timber Cutting Concessions

Perhaps the most basic problem with traditional concessions is overemphasis on immediate payment and inadequate consideration or provision for long-term benefits. Although perhaps sometimes justified by the need for immediate revenue, and the lack of adequate information about the forest resources, such concessions were often initiated by speculators for resale at higher prices; where timber actually was harvested, it often developed that the government had received only a fraction of the true worth of a valuable resource. Most often, however, the concessionaires knew little about forest products, used their concessions for speculation, cut no timber, and paid little to the government. In either case, the nation received little for its resource and failed to achieve any of the benefits which result from stable manufacturing industries.

In the past, few nations in Latin America have had adequate professional forestry organizations in charge of their forest resources. This made it difficult or impossible to obtain adequate inventories of forest resources. Concessions were thus granted where neither the government nor the concessionaire knew much about the volumes or value of timber involved. Lack of inventories, and of professional forestry services, often resulted in serious underestimates of values and inadequate payments to the government. Lack of forestry knowledge and disregard of long-term values resulted in inadequate provisions for forestry practices to perpetuate the resource and/or for development of transportation and manufacturing facilities. Similarly, without an organized forestry agency, supervision of the operations and enforcement of the provisions of the concession were rarely adequate or were handled by poorly trained men.

Viewed in another way, a major fault with most concessions is the fact that concessionaires were rarely responsible forest products manufacturers, with skills, experience, management ability and financing necessary for the development of a new industry. In dealing with speculative investors who, at best, could only hope to consummate the concession by transferring it to a capable operator, governments rarely benefited fully from timber cut and often lost control of the resource with very little compensation. Only when the sales agreement is reached directly with the person or company

which will conduct the operation can necessary details be worked out so that the government's objectives can be met. And only by dealing directly can the government insist on contract provisions which will insure local manufacturing and other features desirable for the local economy.

Finally, some agreements have failed for lack of realism in the conditions imposed upon the purchaser. The government must realize that its benefits depend upon the continued operation of the agreement; the purchaser can continue to operate only if he can make a profit. Operators can and should accept terms necessary to insure fair benefits to the local people and the national economy, but cannot earn the profits necessary to continue operation if requirements are excessively harsh and costly.

Timber Sales Agreements in U.S.A.

Not all experiences with timber cutting contracts have been bad. For example, in the United States of America there are more than 60 governmental agencies which sell timber from publicly owned forests. These include the Forest Service, the Bureau of Land Management, the Department of the Navy, the Department of the Army, the Bureau of Indian Affairs, and many smaller agencies. In addition, sales of timber from private forests are common. Also many of the 50 sovereign states have their own timber lands, operated by state forest services, and these too sell timber under short or long-term contracts. Some municipalities, too, have forests from which timber is sold.

The United States Forest Service, under the Department of Agriculture, handles more sales contracts, and sells more timber, than any other agency in the nation. This is so because the Forest Service, subject to existing legislation, is charged with the management and care of all the lands in the country which have been set aside as national forests.

The negotiation of forest cutting contracts by the U.S. Forest Service is a big business. The income from sales on national forests is paid to the federal government. In 1905 the total income from sales of stumpage on national forests amounted to a little more than (U.S.) \$73,000. This value has risen steadily and in 1968 the income from stumpage amounted to \$205.6 million. This represented an income for the federal government from national forests alone, and does not include revenue from any of the other governmental agencies which administer sales of timber.

The individual states have various methods of selling timber. With few exceptions, however, all sales are made to the highest bidder, under the terms and specifications set forth in an "invitation to bid." The U. S. Forest Service likewise requires bids on most occasions, although non-competitive sales can be made in some circumstances. Sales contracts usually allow from one to three years for completion, but sales involving very large volumes may extend for 20 years or more. Such long-term sales provide for periodic price adjustments.

Types of Timber Sale Agreements

During the years the United States Forest Service has developed several types of sales agreements to fit the different needs of the purchaser and requirements of the Forest Service. A few of the different types of sales agreements are described below.

Commercial Sales Less than [U.S.] \$2,000. In making sales amounting to less than \$2,000 the Forest Service has two methods available to it. These methods differ considerably from the regular procedure in that sales of this nature may be made by direct negotiation without the required 30-day bidding requirement. However, if more than one person or company is interested in this sale, then there must be a 30-day bidding period. This type of sale is primarily for the small operator or farmer with very limited resources, and is widely used to permit salvage of small quantities of dead timber resulting from windthrow or endemic insect attack. An individual may purchase no more than \$2,000 worth of stumpage per year under this type of sale.

Unadvertized small sales are made in the form of a permit (Fig. 1), which does not require signature of the purchaser. Payment for all or a portion of the timber is made in advance, and additional payments are required to insure that no timber is cut which has not been paid for.

FOREST PRODUCTS SALE PERMIT										2400 - 4 (Rev. 12/65)		
LOCATION						PURCHASER Name						
SEALING INSTRUCTIONS						Address						
SLASH DISPOSAL						CONTRACT NO		REGULATION: §				
						FOREST						
						DISTRICT						
						STATE						
						COMPARTMENT NO		P.C. NO				
MAXIMUM STUMP HEIGHT		MINIMUM REQUIRED TOP DIAMETER		LOG RULE		SIZE CLASS		REGULATED		UNREGULATED		
OTHER CONDITIONS												
PRODUCT	SPECIES	UNIT	QUANTITY		RATE PER UNIT		TOTAL VALUE			RECORD OF PAYMENTS		
			4th-10th Q.M.	11th-12th Q.M.	Product	Slash	Product	Slash	Total	Date	Bill Number	Amount
S												
D												
L												
D												
TOTALS →												
C												
U												
T												
TOTALS →												
This permit is issued subject to all conditions and requirements set forth herein and appearing on the reverse hereof.												
Planned by amount						DATE PERMIT						
ISSUED						DATE						
DISTRIBUTION OF						PERCENT SOLD						
MFT						TERMINATION						
DATE						DATE						
EXTENDED TO						(Date)						
By						DATE CLOSED						
By						PERCENT CUT						
By						ACRES CUT						
Signature of forest officer						Date						
Title						Date						
Closure accompanied by						Date						
Closure approved by						Date						

Figure 1. United States Forest Service form for sales of small quantities of timber to local people. Widely used for salvage of dead trees, this form accounts for more than half the sales from the national forests, but only a small fraction of total volume of timber cut. Similar sales may become common on developed forests in Latin America.

Competitive Sales. Almost all commercial timber on the national forests, having an appraised value in excess of \$2,000, is

sold through competitive bidding. If the volume can be harvested in three years or less, this is considered a short-term timber cutting contract. Occasionally, the term may be extended to five years and still be considered as short-term. Most of the sales in accessible regions are of a short-term nature.

Two standard contract forms are used for sales which are advertised for competitive bidding. A short form (2400-3) is used for most such sales involving less than \$2,000, and for larger sales in areas where requirements are standardized and well understood by the purchaser. The front side of this contract form, which covers the specific contract agreements, is shown in Figure 2; the reverse side covers standard requirements. Where necessary, special clauses may be added to this form, on additional sheets.

UNITED STATES DEPARTMENT OF AGRICULTURE—FOREST SERVICE		NAME OF PURCHASER	
TIMBER SALE CONTRACT			
NATIONAL FOREST	DISTRICT	CONTRACT NUMBER	DATE
SALE IDENTIFICATION			

1. The parties to this contract are The United States of America, acting through the Forest Service, United States Department of Agriculture, hereinafter called the Forest Service, and _____ hereinafter called the purchaser.

2. The Forest Service agrees to sell and the purchaser agrees to purchase all the dead timber standing or down and all live timber marked or designated for cutting by the Forest Service, merchantable as hereinafter defined, located on an area to be designated by the Forest Service before cutting begins in _____

3. The purchaser shall pay to the Forest Service, USDA, _____ the sum of (\$ _____), * more or less, as may be determined by actual scale,* for the timber at the rates set forth below for stumpage which includes deposits for sale area betterment (Act of June 9, 1930, 46 Stat. 527, 16 U.S.C. 576b), and for required slash disposal deposits (Act of April 24, 1950, 64 Stat. 84, 16 U.S.C. 490), in advance payments of at least \$ _____ each when called for by the Forest Service, provided that just before completion of the sale such amount may be reduced by the Forest Service.

ESTIMATED QUANTITY AND UNIT	SPECIES AND PRODUCT	RATES PER UNIT FOR —	
		STUMPAGE	SLASH

4. The purchaser shall cut and remove said timber in strict accordance with the following, and with all conditions and requirements on the back hereof (and on attached pages, if any), which are hereby made a part of this contract, and the regulations governing timber sales prescribed by the Secretary of Agriculture.

5. Unless extension of time is granted all timber shall be cut and removed and the requirements of this contract satisfied on or before _____. All trees are merchantable which contain _____ or more merchantable log, **or which contain _____ or more _____ (Product) **

6. All logs are merchantable which are not less than _____ feet long, at least _____ inches in diameter inside bark at the small end and contain a net of _____ percent of their gross scale, provided that no log scaling less than _____ bd. ft. shall be considered merchantable; **all _____ are merchantable which** (Product)

IN WITNESS WHEREOF, the parties hereto have executed this contract as of the _____ day of _____, _____.

	UNITED STATES OF AMERICA
BY (Signature) _____	
TITLE _____	
PURCHASER (Signature) _____	
BUSINESS ADDRESS _____	

WITNESSES (Two)

(Signature)

(Signature)

*Strike out words between stars when contract is for lump sum and not by area with volume to be determined.
**Strike out wording between double stars if not applicable.

Figure 2. Simple 1-page form used for smallest contract sales, mostly under \$2,000, on national forests of the United States. The reverse side consists of 13 standard clauses relating to such matters as payments, measurement, construction and utilization standards. This type contract is suitable for simple advertised sales where markets are developed and most sales requirements are familiar to purchasers and their employees.

Most major sales, both of normal (up to 3 years) and long-term duration, are made on the Standard Timber Sale Contract, form 2400-5. This is a 20 page form, parts of which are illustrated in Figure 3, providing spaces for listing numerous timber species and products, and 11 pages of standard requirements and alternative

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

TIMBER SALE CONTRACT

NATIONAL FOREST		RANGER DISTRICT	REGION	CONTRACT NO.
SALE NAME		SUBREGION	DATE OF AWARD	
			DATE OF TERMINATION	

The parties to this contract are The United States of America, acting through the Forest Service, United States Department of Agriculture, hereinafter called Forest Service, and _____

_____ hereinafter called the Purchaser.

In consideration of the premises and the promises hereinafter contained, Forest Service agrees to sell and permit Purchaser to cut and Purchaser agrees to purchase and cut included Timber.

A1 - Location and Area, applicable to B1.1
This Sale Area of _____ acres more or less is located in: _____

A2 - Volume Estimate and Utilization Standards, applicable to B2.1, B2.2, and B2.4

SPECIES AND PRODUCT	ESTIMATED QUANTITY AND UNIT OF MEASURE	MINIMUM SPECIFICATIONS					
		TREE		PRODUCT			
		DIAMETER BREST HIGH (D.B.H.)	PRODUCT UNITS PER TREE	LENGTH	DIAMETER INSIDE BARK AT SMALL END	NET SCALE IN % OF GROSS SCALE	MINIMUM NET SCALE
		Feet	Inches		Board feet		

A5 - Timber Payment Rates, applicable to B3.1 and B4.0

TABLE 2a
For Species and Products to be Paid for at Rates Escalated under B3.2

SPECIES AND PRODUCTS	UNIT OF MEASURE	RATES PER UNIT OF MEASURE					BASE INDEX
		BASE	ADVERTISED	BID PREMIUM	BID (Tentative)	REQUIRED DEPOSITS SLASH DISPOSAL	

A7 - Scheduled Rate Redetermination, applicable to B3.33
Dates for scheduled rate redetermination are _____ and each year thereafter during the term of this contract. Rate redeterminations shall cover: _____

A25 - Signature and Acknowledgments
IN WITNESS WHEREOF, the parties hereto have executed this contract as of the date of award stated on Page 1 herein.

UNITED STATES OF AMERICA
By _____

(Title)

Two Witnesses: 1

(Name)

(Address)

(Purchaser)

Figure 3. Parts of the standard contract used for sales of national forest timber in the United States. The contract form [2400-5] includes 8 pages of specific conditions plus 11 pages of standard provisions. Major timber sales contracts in Latin America should include a comparable degree of detail.

clauses to cover contingencies frequently encountered in the United States.

Copies of these various sales forms are available from the United States Forest Service, Washington, D.C. The many provisions in Form 2400-5 and its companion form 2400-5T (for tree measurement sales) will afford useful suggestions for anyone developing a major timber sale contract in Latin America.

Long-term Timber Cutting Contracts. In the past there were many remote areas of the national forests of the United States which, like those in Latin America, lacked competitive timber markets because transportation and manufacturing facilities had not been developed. In such areas, contracts extending over periods of 10 to 50 years are executed to initiate harvesting and forest management. Assurance of long-term supply of timber justifies the purchaser in making the large investments in manufacturing and transportation facilities required.

Agreements of this kind are made after careful appraisal of the timber, preparation of a management and development plan, advertising of the conditions of sale, and competitive bidding, though in some cases there has been only one bidder. In the national forests of the United States, recent development of markets and transportation facilities has almost eliminated the need for such longterm sales. For remote areas in Latin America, however, they afford examples of successful development.

A major objective of contracts for timber cutting in remote areas of the United States, as in Latin America, is the development of a permanent wood-using industry. The capacity and nature of manufacturing facilities, type of transportation system, adequacy of pay, services and housing for employers are important factors upon which agreement must be reached. While there may be only one prospective purchaser for a given timber unit, wherever possible competitive bids are obtained. Contract is awarded to the bidder whose offer is most advantageous to the public interest; usually, but not always, this is also the offer affording the highest total stumpage payments.

Administration of Sales

Practically all U.S. Forest Service timber sale contracts are originated by that organization and not by a prospective purchaser. Timber sales are developed as needed to carry out planned management practices, and not because some party or firm happens to be interested in securing timber cutting rights. The Forest Service and other federal and state agencies are able to operate in this manner because of their technically trained personnel, their advanced timber inventories and management plans, and because in most regions there is an established forest industry. Even where an industry is lacking, plans for development are initiated by the timber managing agency.

Considerations of Stability

The primary reason for investing is to earn profits. Unless a

potential investor can anticipate a profit, he is not likely to invest. He will invest his capital in a forest products industry only if it is capable of earning a rate, equal to or greater than, what this capital could earn if alternatively employed. Risk must also be taken into account. If the risks of alternative enterprises are the same, capital tends to be invested where profits will be highest. If risks are considered to be high, as is often true of new enterprises, higher profits are necessary to attract capital.

It is to the advantage of the nation entering into a timber cutting contract that the purchaser receive a fair return on his investment, since this is the best insurance of continued operation. The government should set realistic stumpage values, which is its direct income from the enterprise. It should not enter into partnership with the investor, but should exert sufficient control over the operation so that profits cannot be excessive. Direct regulation is not always desirable, but through the manipulation of corporate and business taxes as well as import and export duties the government can insure equitable distribution of income. This should be done judiciously, for if it is done in a heavy-handed manner, the purchaser may be forced out of business. In this event, the government might be the greatest loser.

Sometimes the company can be helped at no cost to the government. For example, it is known in the business world that a firm can sometimes be made to show, on its books, either a profit or a loss depending upon the rates allowed for depreciation and amortization. One inducement for new industry is the so-called "fast write-off," which allows a business firm to amortize equipment at a rate faster than its normal depreciation. A fast write-off lowers paper profits, thereby reducing taxes incurred by the investor. For example, if an item of equipment has a normal useful life of 10 years, an accepted method of depreciation is to deduct one-tenth of the cost, less salvage value, from gross income each year for 10 years. A fast write-off is the same procedure except, for example, one-fifth of the cost, less the salvage value, would be deducted annually over a 5-year period. Thus, the net income is reduced. Although gross income and real profits do not change, paper profits are reduced. If one of the incentives already offered to industry by the government granting a timber cutting contract is freedom from or a reduction in taxes during the initial period, it would be advantageous to permit reasonably fast amortization of buildings and equipment since it would not cost the granting government anything. On the other hand, the purchaser might benefit if he is liable for taxes in his native country.

The government should strive for stability of investments. The formal agreement for a timber cutting contract should require certain minimum investment levels of the purchaser, and investments should not be allowed to fall below the accepted levels. On the other hand, the purchaser needs every possible assurance that his investment, providing he fulfills the conditions of his agreement, will remain intact over the period of the contract.

Because anticipation of profits is a major inducement to investment, the disposal of a portion of the profits should be at the discretion of the investor. Large corporations and firms have to pay dividends to their stockholders. To attract foreign capital, the granting nation must assure investors that a reasonable portion of their earnings can be converted into any currency they choose, and that this money may be taken out of the country. This means that the freedom to withdraw their portion of the profits from the country, and/or to convert it to any other currency should not be taxed or limited by legislation. This is a very important point if responsible foreign investors and their capital are to be attracted.

The purchaser should be reimbursed for constructing and staffing such activities as schools and hospitals. This can be accomplished through special legislation in the form of further tax relief after the period of no taxes ends.

PROPOSALS FOR TIMBER SALE CONTRACTS

Because management of forests for permanent production requires the services of competent professional foresters, it would be hazardous for any nation to embark on extensive forest utilization projects until it has developed a forestry agency, staffed by qualified professional foresters. In most countries such a staff would cost less than experts from other countries and would afford knowledge of local trees and their potential, familiarity with national objectives, and continuity of planning, inspection and management that foreign experts could not provide. At the very least a cadre of competent foresters must be employed by the national agency to insure adequate planning, even if they must be supplemented by foresters from other nations.

A very necessary first step, therefore, for nations desiring to best utilize their forest resources, is to develop a forestry agency for control, protection and management of their forest lands. Fortunately, steps have been taken towards establishment of schools of forestry in Latin America which will educate future foresters for tropical forests.

Wherever possible, proposals for timber sale contracts should be initiated by the national forestry agency. This is standard practice in developed nations with large public forests, such as the United States of America and Canada.

Where preliminary information for undeveloped regions indicates possibilities for a manufacturing complex, tentative boundaries should be determined and more detailed surveys made. These surveys should provide approximate information on the kinds and amounts of timber available, estimates of current growth and mortality, and rough approximations of costs, including transportation systems. If the results indicate that a development would be feasible at present or projected costs and prices, a proposal is developed, and the proposed sale of timber is advertised for bids. Where development of a new industry is proposed, with very large values and long time periods, bids must be solicited internationally. In 1951 for example, a Japanese firm entered into a 50-year contract with the U.S. Forest Service for 8.25 billion board feet of timber in the Tongass National Forest in the State of Alaska. A second 50-year contract for 5.25 billion board feet was made in 1956.

There are obvious advantages in this procedure, as compared with proposals initiated by prospective purchasers. It insures that the national government will have sufficient information to evaluate proposals. It is more efficient because surveys are planned on the basis of national needs, not on the demand of the purchaser. It also permits efficient location of area boundaries and road systems so that timber from all areas can be most economically marketed. Finally, a well developed proposal by a national forestry agency is more likely to receive consideration by competing bidders; if the timber is offered in response to a purchaser's proposal, he may be the only bidder, and the price offered is likely to be low.

Whatever the origin of the proposal, the area considered for a

timber cutting sale should be an economic unit, capable of sustaining a forest industrial complex. If the tentative area is too large or too small, or if it excludes timber best harvested with the proposed sale, boundaries should be relocated. The area under consideration should be inventoried and a complete and adequately detailed management plan should be made. The results of this work should then dictate total and annual cut, and the size and annual production of the main manufacturing plant. While the specific type of plant to be built, i.e. sawmill, pulpmill, veneer-plywood plant, may not be determined at this time, the desired degree of remanufacture should be indicated, and the provision for bidding should consider factors such as number of employees, wage rates, and unit value of products. Other terms of the sale, including transportation facilities and other required developments, provisions for regeneration of lands from which timber is harvested, fire protection and other requirements will be developed at this time. With this information the invitation to bid may follow.

The invitation to bid on a timber cutting contract should state, among other things, the total area covered by the sale, total volume, volume per hectare by types, minimum and maximum annual cut. In addition, the solicitation should state species to be cut, degree of utilization, and in general terms, the type of industry and equipment required, and all other requirements to be made by the government.

Usually the forestry agency should set a minimum price acceptable for each species. The government should also require each person or firm submitting bids on the contract to post a substantial (predetermined) sum of money as a bid deposit. This will help to limit bidders to companies or individuals able and willing to carry out a timber cutting operation.

If a request for timber cutting contract is initiated by a prospective purchaser, it should be as detailed and complete as possible, and should be addressed to the nation's forestry agency. The area being sought should be described in detail and outlined on the best map available. It is not enough to ask for an area of land containing 50,000 hectares, more or less. The request should indicate the desired duration of the contract as well as the species to be cut, proposed management plan, reforestation plan, and type of equipment to be used. The person or firm requesting a timber cutting contract must become familiar with existing legislation regarding national labor requirements, housing, schools, churches and other social matters. A financial statement showing the net worth of the applicant, and a record of his experience in the industry should be required. The forestry agency should specify deposit of a substantial sum of money as evidence of good faith. In addition, deposit of funds to cover government cost of surveys and planning may also be desirable.

The forestry agency of the government, upon receiving such a request, should first ascertain whether or not the area under petition is available for sale. If it is not, the forestry agency should notify the applicant and return his deposit. If the land is available, the forestry agency should then investigate the applicant, checking on such

things as technical knowledge, past business experience, history of operations, and financial responsibility. If the applicant is not acceptable to the forestry agency, the deposit should be returned and the request denied. If the applicant appears technically and financially acceptable, there should be a meeting or several meetings of the applicant and the forestry agency for a complete discussion of the proposal. These meetings should produce a basic agreement in principle on contract provisions, including the subjects discussed in the following chapter, and the applicant should receive an option for a specific period. A condition of the option would be the satisfactory performance and compliance with the previously mentioned stipulations. The meetings should also result in specific agreements for accomplishing the following:

(1.) Preparation of a forest inventory covering the proposed area, to be made available to both parties. If the applicant has already made an inventory, then the forestry agency will make a check cruise to determine if the inventory is correct; otherwise the inventory should preferably be made by the forestry agency. Financing of this inventory may be by the government, the applicant, or both; the allocation of cost will be agreed upon at this time.

(2.) Preparation of a detailed management plan for the economic unit by the forestry agency of the granting nation indicating annual cut, species to be cut, reforestation requirements, intensity of utilization, etc.

(3.) Conduct of a feasibility study to be made either by the applicant or by the forestry agency or by a combination of the two. The decision as to who will make this study should lie with the forestry agency.

(4.) Preparation of projections of sales and profits to be made by the applicant and furnished to the forestry agency.

(5.) Planning for lay-out of road systems, camp sites, and industrial plants to be made by the forestry agency or by the applicant, or jointly if the forestry agency so desires.

(6.) Conduct of other surveys and/or studies that the forestry agency may deem necessary to the success of the sale. These also should be made by the forestry agency or by the applicant at the request of the forestry agency.

(7.) Agreement on use of nationals on the proposed project, initial wage and salary schedules, social, and cultural considerations.

A reasonable length of time should be allowed for performance of the work outlined above. Any studies, surveys, or inventories not made by the forestry agency should be made by competent professional personnel. Proposed personnel for such work should be approved, in advance, by the forestry agency.

Upon completion of the work to the satisfaction of both parties, the timber cutting contract will be executed, and the purchaser may proceed in accordance with its provisions. The deposit paid to the

government at the time the request was made will constitute the first payment of part or the first payment, as the case may be.

If for any reason whatsoever, the applicant unilaterally decides not to exercise or follow through on his option, then the entire deposit should be retained by the government as liquidated damages. All reports, surveys, and inventories then become exclusive property of the government.

If the option is not exercised by mutual agreement of both parties, then the government should retain such part of the deposit as is required to reimburse its costs for the investigations, studies, and surveys. Any balance remaining after the forestry agency has been reimbursed, should be returned to the applicant. Copies of surveys, reports, and inventories should be retained by both parties.

If the applicant fails to comply or complete all the work assigned to him, in the form of surveys, reports, and inventories in the allotted time, then the chief of the forestry agency, at his discretion, may elect to extend the period for completion of this work if it is in the best interests of the nation, or he may consider the option unilaterally forfeited.

The terms of the timber sale option and of the agreement itself, should be realistic. The time allotted should be sufficient for surveys, reports, inventories, and other required work to be properly and efficiently performed. Quality should not suffer for lack of time. On the other hand, the time allotted should be short enough so that the applicant cannot delay unnecessarily. Inasmuch as timber inventory, feasibility studies, and engineering for industrial plants, in all probability will, and should be, conducted by different persons, they should be carried out simultaneously. The management plan of course must wait for the results of the timber inventory.

Dealing with financially responsible and technically competent persons or firms is essential to successful forest resource development. The government should be interested primarily in the long term benefits rather than the immediate deposit. Utilizing a potentially valuable asset should be the main objective. It can accomplish this only by refusing to deal with speculators and middlemen. The government should deal with principals.

ESSENTIAL CONTRACT PROVISIONS

Each timber cutting contract must differ from all others in many details, and should be written specifically for the particular situation. There are, however, a number of subjects that must be covered in all timber cutting contracts; the success of the agreement often depends upon the thought given these subjects.

The length and complexity of timber sale documents may vary widely. Sales of small amounts of stumpage to local nationals, where sales requirements are well understood, and close supervision by the forest officer is feasible, may be covered by a short, simple document. Sales of considerable size can also be made on simple, standardized forms where a timber industry exists, and purchasers are familiar with requirements. Explicit documents, covering all phases of the agreement in some detail, are essential, however, for large, long-term contracts involving mill and road construction and the establishment of a forestry industry where such an industry has not previously been developed.

In the succeeding sections of this chapter are presented some of the more important points that must be considered, agreed upon and documented in the timber cutting contract. Obviously, detailed collaboration among the nation's administrative, legal and forestry representatives is required. Only with the technical assistance of competent foresters, familiar with forest management, logging and the manufacture of forest products, and fully informed about the timber sale area, can adequate and effective agreements be reached.

Principals to Agreement, and its Duration

Names and Addresses. Obviously, the contract must identify the agency of the government which is selling the timber, and the individual or company purchasing it. Since most purchasers are corporations, the title and address of the legal head of the corporation, as well as that of the government agency should be shown.

For most important timber sales, it is very desirable to designate, by title and address, the representative in charge for both the purchaser and the selling agency and both these representatives should be located as close to the field operations as feasible, so that problems can be discussed in person.

Financial Responsibility. Before proceeding to the development of a contract, the government will have investigated the financial resources of the applicant, and assured itself the applicant is both technically and financially able to conduct the work satisfactorily. Provision may be made for updating of financial information prior to execution of the contract.

For its own protection, the government should require the purchaser to carry a stipulated minimum insurance coverage against liability for personal injury and property damage. This will vary from country to country depending upon the national laws. This coverage should serve both to indemnify the government for

damages it might sustain and to prevent lawsuits against the government.

Additionally, the government should require the purchaser to post a bond to insure compliance with contract terms. This may be in the form of a cash bond placed in escrow or a surety bond issued by an organization acceptable to the government.

Dates. In addition to the date of execution, the timber sale agreement should contain an operational schedule. This should state, in detail, the time when each phase of a multiphase operation must begin. For example, it may state that a sawmill having a definite daily capacity must be built and in operation by a certain date, or that specified roads must be completed in so many months, or that logging operations will begin by a specific date. Provision should be made for revoking the agreement if the purchaser fails to meet the agreed schedule. In practice, the government may accept some deviation from such a schedule, especially where the purchaser has acted in good faith, but has been delayed by circumstances beyond his control. Definite schedules are needed, however, in the scheduling of operations by the government, such as timber marking. They are also essential if it should become necessary to take action to insure compliance with contract terms.

Duration of Agreement. The expiration date is important to the purchaser in planning his overall operation, in scheduling approved harvests and in completion of his contract. The document should provide dates for other activities as appropriate. It may state, for example, that the purchaser must release to the government certain portions of the land covered by the agreement by specific dates. If the purchaser has the right under the terms of the agreement to remove buildings or equipment, it should be stated whether this must be done during the term of the grant or if additional time will be granted. The forestry agency should have the authority to extend termination dates when this would be to the advantage of the government.

Timber and Other Value Conveyed

Since timber to be harvested is the basic raw material which the purchaser is to manufacture into finished products, it is essential that the contract specify in detail the timber being sold. It is neither sufficient, nor satisfactory, to use phrases such as "all timber," "all standing timber," or "all merchantable timber." Such impressive or ambiguous language is often a source of friction and sometimes results in unsatisfactory cutting.

Species and Sizes. The contract should specify what species are required to be cut, and the species, if any, whose removal is optional. It should indicate whether trees to be cut are to be individually selected and marked by forestry agency personnel, or if some other specified method of selection is to be used. Minimum diameters, at specified heights above ground, of trees whose removal will be required should be specified. The method of measuring trees with basal buttresses should be specified. Maximum permitted stump height for normal and buttressed trees should be designated.

it also will determine the number of hectares involved.

Boundaries. The contract should state who will be responsible for marking and maintaining the boundaries of the sale area. This duty may be assumed by the government, or the purchaser, or be shared by both. It is to the advantage of those involved for the boundaries to be well defined. This not only protects the government and the purchaser but also puts everyone on notice that this land is under contract to the purchaser.

Ingress and Egress. The purchaser, and his employees and agents, must be assured of the right to enter and leave the area under the terms of the agreement. This must, of course, include the movement of vehicles and equipment necessary to the harvesting of the timber and any other operations authorized or required by the contract.

Any restrictions to such ingress and egress must be clearly stated and defined. Examples of such restrictions might be exclusion of heavy trucks from certain roads during wet weather or exclusion of personnel from specific areas during periods of fire hazard, or from a game management area adjacent to the cutting area. If limitations on ingress or use of any part of the area are dependent upon season or weather, the contract should give the government the authority to place such restrictions in effect, define the general situation during which they may be applied, and specify the manner in which the purchaser (or his representative) is to be notified.

Conditions of Contract

In addition to the clauses covering material being sold and the payments to be made, timber sale contracts include various other conditions reflecting the government's interest in the economic and social effects of the program, and in the perpetuation of the forest as a renewable natural resource. These conditions are especially important for large and long-term contracts because they may involve important segments of a nation's forest resource. Much skill and judgment is required in stipulating these conditions, because they must often apply to new industries and to forests whose silvicultural requirements are not well known. Policies and major objectives should be stated clearly; specific requirements are often set up in supplementary documents, such as working plans. Provision should be made for review of such requirements at stated intervals, and for changes that may be desirable.

Kinds of Operation

The agreement should clearly state what types of operations are permitted under the timber cutting contract and what types of operations the purchaser is obligated to perform. It is not enough to state that a sawmill will be erected. The type of mill, circular or band, should be described and its rated daily capacity given. Such accessory items as dry kilns, planers, and resaws also should be clearly specified. It would be advisable to have a working plan of each mill complex attached to and made a part of the agreement.

It should also be stated whether or not this is expected to be an integrated operation. For example, if the complex is to have a wood pulp and paper mill, the design and daily capacity of each facility should be made a part of the agreement. Where there are integrated operations, the pattern of resource utilization should be described; classes of material to be utilized in the various units of the complex should be specified. Generally speaking, it would be to the disadvantage of the government to have trees containing high quality lumber used in the pulp mill.

Forest Management

Management Plans. A management plan or plans, including methods of regeneration, should be prepared in advance of the sale by the forestry agency, and attached to and made a part of the sale agreement. The contract section referring to it should provide for periodic inspection and supervision by the forestry agency.

The management plan should be flexible and should be reviewed periodically by both the purchaser and the forestry agency. It should outline the program of cutting and regeneration schedules for at least an initial 5-year period.

Removal of Timber. Such phrases as "the timber should be cut in the best possible way" or "in a professional manner" are useful only in indicating an intent. They must be supplemented by specific stipulations regarding sizes and species to be removed, avoidance of waste and damage to reserved trees and other specific matters. Types of logging equipment permitted and methods of regeneration required also should be clearly indicated.

Fire Protection. The instrument conveying a timber cutting contract should impose necessary restrictions upon the use of fire. The government should have the right to close down any and all phases of the operation if, because of clearly defined conditions, there is excessive danger of fire if operations continue. There should be a provision to extend the duration of the agreement if the forestry agency closes any phase of the operation for extended periods.

The contract should also provide that the purchaser will immediately cease logging operations should uncontrolled fire occur, and at his own expenses, place his personnel at the immediate disposal of the forestry agency for suppression activities. It should specify to what extent and under what circumstances the costs of fire fighting will be borne by the purchaser, and that in other cases costs will be paid by the government.

Close Utilization. The contract should indicate that timber cutting and manufacture should be accomplished so as to avoid unnecessary waste of wood. Minimum required top diameters and maximum permitted stump heights should be specified, with provision for specified deviations for deformed or buttressed trees. Method of measuring stump height on steeply sloping ground should be described. Penalty charges for excessive waste in logging or manufacture should be provided.

While payment should be in most cases based on measurement

of trees or logs, in those cases where it is based on lumber measurement, it is essential that a high standard of utilization be enforced.

Other Property. The contract should specify the purchaser's responsibility in the use of public or other property, especially existing roads. If the purchaser uses public bridges or roads to a substantial extent or exclusively, he could be assigned responsibility for either a part or all of the maintenance and repairs to these facilities. The same requirement could be made to apply to any other government property or facilities such as buildings. Other property for which special provision may be required includes wildlife, young or non-merchantable timber, and utilities such as telephone or power lines. Where responsibility is shared, the obligations on both the purchaser and the government should be specified.

Compliance with Laws. The laws of a country are dynamic that is, they change from time to time. It is expected that the purchaser will become familiar with the laws of the country in which he operates and that he will comply with them. It may be that the law of the land does not currently provide social benefits and social security. If the purchaser is expected to furnish social security and other benefits to his employees, this should be clearly described and made a part of the agreement.

Measurement and Payments

Scaling or Measurement. If timber is to be measured as a basis for payment, the log rule, if any, and all other pertinent details for scaling and tallying should be specified. It should be clearly stated who will do the log scaling or lumber measurement, at whose expense, at what place, and to whom and when the reports will be submitted.

Whether or not the purchaser makes special payments to finance the cost of measurement, it is essential that this be done by a competent, well paid and reliable representative of the government. Where sufficiently accurate estimates of timber volume are available, sale by area without measurement of products after cutting is sometimes most satisfactory.

Price Basis. The contract must specify the price of each and every product to be paid for under the contract. While stumpage values vary greatly with size, it is usually most practical to estimate an average value per unit of volume for each species. In some cases the variation due to size is recognized by separate prices for sawlogs and the smaller material to be used for pulpwood. These values are applied, either to the volumes of products scaled after cutting, or to the quantities estimated to be conveyed on the basis of a standing timber estimate.

On very large sales, stumpage values may differ considerably from place to place because of differences in accessibility. In such cases, separate price schedules should be applied to various blocks, as appropriate. This is necessary when both accessible and inaccessible units are to be operated during the initial period of the

contract. Where only the more accessible timber is to be harvested during the first period, agreement in prices for the more remote blocks may be deferred until a later appraisal period.

To insure that the interests of the government are protected, it is essential that all timber be paid for in advance of cutting. If payment is based on the standing timber estimate, the total value of each block of timber is simply paid for before any cutting in that block. Where payment is based on measurement after cutting, payment for the estimated value of timber in a block is also made before any cutting in the block. In this case, however, actual scale values are charged against this payment. If the estimate was too low, and the cut approaches the amount paid, an additional payment is required. Any surplus deposited is applied to other blocks after operations in a given block are complete.

Where timber cutting contracts cover long periods of time, some provision should be made to adjust the prices, either upward or downward, in response to changes of conditions. In the United States of America such an "escalator" clause generally is tied to a commodity index, such as the wholesale price of No. 2 common southern yellow pine boards. A rise in the index would raise the stumpage price proportionately and a reduction would proportionately lower stumpage. Re-evaluation may be accomplished in many ways. One method would be to bring stumpage into line with the commodity price index at stated periods. A second way might be to adjust price each time the index rises or falls a specified number of percentage points. Whatever method is adopted, it should be described clearly in the agreement.

Because such adjustments sometimes do not fully reflect all factors pertinent to stumpage evaluation, they should be supplemented by periodic re-negotiation of prices, usually at 5-year intervals.

Method of Payment. The contract must specify how, when, where and in what amounts payments will be made. Generally it is advisable that advance payments should at all times cover at least the normal value of two months' cut. Provision should be made for the forestry agency to have the right to suspend operations or cancel the contract should there be a serious default of payment.

Obligations of the Government

Responsibility of the Government. Inasmuch as all governments change both policy and personnel over time and because timber cutting contracts usually span long periods, the purchaser needs some form of legal security. An incoming government may not look upon timber cutting contracts in the same light as the outgoing regime; radical changes could cause the purchaser serious financial loss. The purchaser should be guaranteed indemnification for such losses in much the same manner that the government is.

Benefits to the Purchaser. If the purchaser is to receive any benefits in the form of a reduction or relief of taxes or import duties,

these clearly should be defined. The time during which these benefits will be in effect also should be stated. If there is a sliding scale of benefits over time, a schedule of these benefits should be attached to and made part of the agreement. The same would apply to protective tariffs if these are a consideration under the terms of the contract. Similarly, any special provisions, such as accelerated amortization to minimize income taxes, will be provided for in the contract.

Timber Loss by Fire or Theft. Fires, hurricanes, theft, and other unpredictable losses can and have materially reduced the volume and sometimes payment for a tract of timber during the life of an agreement. The contract should state clearly who will bear the loss, under what circumstances, during the duration of the contract period. Obviously the purchaser should assume or share losses due to his negligence or that of his agents or due to failure to comply with contract requirements. The contract should not attempt to collect payment from the purchaser for timber which was not harvested because of circumstances beyond the purchaser's control.

Arbitration. An arbitration body, acceptable to and binding on both parties, should be established to settle disputes of a technical nature. This body should be a disinterested organization or group. Customarily, one participant is selected by the purchaser, a second by the government and a third person is jointly selected by these two. The basis for paying the expenses of arbitration will be agreed upon, and clearly stated.

Renewal. The contract should provide for limited time extensions, by mutual agreement, made necessary by uncontrollable factors. It should also state whether or not formal renewal is to be considered and if so, what rights or options will then be available to the purchaser. If a renewal option is provided, the considerations on behalf of each party should be clearly specified.

Assignment of Contract. It should be at the discretion of the government to stipulate whether or not the contract may be assigned to a third party. Unless this is specified, contracts are usually interpreted as assignable. In the past this ambiguity has led to many misunderstandings and failures to fulfill obligations of a timber cutting contract.

The contract should state specifically whether the contract may or may not be assigned to another, either in whole or in part. The government may have no objection to assignment of one part of the contract while having strong objections concerning another part. Even if the government permits reassignment of the contract in whole or in part, this permission should be limited to firms or individuals acceptable to the government.

The contract should also make clear whether the purchaser remains responsible for fulfillment of contract terms after an assignment, or if he is freed of responsibility if the contract is assumed by a third party; usually the purchaser should continue to be responsible.

Execution and Recording of Contract

Signatures. Legal representatives of all parties must sign the contract document, in the form and with such notarization as national laws require.

Recording or Registration. Despite the importance of legal documents and the care of handling they deserve, they sometimes become lost, mutilated, or destroyed. They should be recorded in a public registry at a place designated under the laws of the nation selling the timber.

FORMS OF CONTRACT

After preliminary agreement on general terms of a cutting contract, and the execution of an option, the detailed contract terms can be worked out by individual or joint effort of the purchaser and the government during the period required for surveys and the development of plans. Frequent meetings between representatives of the parties are desirable to insure that there is a thorough understanding of all contract provisions, and to permit adjustments as needed to arrive at terms acceptable to both parties.

For the most part, the development of the contract terms should be the responsibility of representatives of the purchaser and the government's forestry agency, though each should have legal assistance as necessary.

The actual contract documents should be drawn up by the nation's legal agency, with the cooperation of the forestry agency and the purchaser's representatives. A timber cutting contract is usually an important, long-term legal document, in many cases very important to the nation's economic and social welfare. As such it must be carefully prepared, explicit, as detailed as necessary to avoid misunderstandings, and above all it must be legally enforceable.

Because no two timber sales can be identical, and since legal requirements differ among nations, representative or sample contracts can serve only as general guides and indications of the provisions that have been incorporated in some successful contracts. In Figs. 1, 2 and 3 of this publication are reproduced parts of the timber sale contract forms used for sales by the United States Forest Service. These contract forms are used in combination with standard and alternative clauses developed to meet special situations and local requirements. Study of these should provide helpful suggestions for administrative foresters contemplating large sales in Latin America. In some cases, copies of actual sales contracts for specific situations can be obtained from the Chief, Forest Service, U.S. Dept. of Agriculture, Washington, D.C.

To provide further suggestions applicable to timber cutting contracts for Latin America, the remainder of this chapter presents a hypothetical contract form that would be generally suitable for use in many Latin American nations. Footnotes indicate the information to be inserted in the many blank spaces which occur in the contract form.

While it is necessary that some logical format be used in preparing a contract document, this is less important than the nature of the contract provisions, and the clarity with which they are expressed. The understanding of the full potential of forest products manufacture in the nation's economy, the skill and judgment with which decisions have been made to achieve this potential through a viable forest industry, as well as the effectiveness of the measures devised for the perpetuation of the forest resource are the true measures of the success of a timber sales agreement.

from the date of signing of this contract by both parties and to complete construction and initiate forest products manufacture in accordance with Schedule A, which is attached and made a part hereof.¹²

By the end of¹³ all manufacturing facilities will be in production to at least¹⁴ of their installed capacity. Should there be delays due to circumstances beyond the control of the purchaser, the seller, at its discretion, may grant additional time if it is in the best interest of the nation to do so. If the purchaser fails to complete the work specified in Schedule A within the agreed time, or authorized extensions thereof, and if the seller does not allow an extension of time, then the seller may terminate the contract for default, as specified in Article 23 hereof, and the purchaser shall have¹⁵ to remove his equipment and personal property. All physical improvements, including¹⁶ shall become the property of the seller.

3. The purchaser agrees to operate the forest products manufacturing complex specified in Schedule A, Article 2 of this agreement, at substantially the productive capacities indicated therein throughout the term of this contract. Except for reductions in production due to causes beyond the purchaser's control, including war, natural calamity or inadequate markets, no major changes in production rates of manufacturing processes will be made unless approved in advance and in writing by the chief of the federal forestry agency.

4. The timber conveyed by this cutting contract is located on a land area in¹⁷ more fully described in the plat and metes and bounds description, Schedule B, which are attached and made a part of this contract.

5. It shall be the duty of the¹⁸ to maintain the surveyed boundary lines, keeping them open so that a man may walk them and also to keep them marked by painted¹⁹ blazes

¹²Schedule A should show agreed time (in months after contract date) for initiation and completion of each item of construction required by the contract. Specific manufacturing processes, types of products and normal production rates should be specified for each manufacturing facility.

¹³This should be the time to the last completion date for manufacturing facilities shown in Schedule A.

¹⁴State percentage.

¹⁵State time, in months.

¹⁶Enumerate kinds such as roads, pipe lines, power lines, buildings, etc., as applicable.

¹⁷Province or other local subdivision.

¹⁸State either purchaser or seller, as applicable.

¹⁹State kind and color or paint.

Hypothetical Timber Cutting Contract

This contract entered into this date by¹
hereinafter called the seller and² hereinafter
called the purchaser,

Conveys, under the terms and conditions here set forth and
agreed to by both parties, certain timber standing upon a tract of
land of which the seller is the legal owner, located³
and containing⁴ hectares, more or less.

1. The purchaser's principal headquarters is⁵
The⁶ shall be the legal agent for the purchaser. The
seller is represented in this agreement by its agency⁷
which is responsible for custody and management of said land, and is
legally empowered to act for the government of¹ in
the sale of timber from said land in accordance with⁸
The legal agent for the seller shall be⁹

The seller and purchaser shall each designate a local
officer-in-charge who shall receive copies of all correspondence and
other documents transmitted between the principles regarding
activities relating to this contract. Each local officer-in-charge shall
represent his principal in matters relating to this contract as
authorized by said principal.

2. This contract shall be for a period of¹⁰
commencing on the date of signing of this contract, subject to the
following conditions and limits of time:

The purchaser agrees to initiate construction of facilities for
manufacture of forest products including roads and other
facilities as agreed upon, on or before¹¹

¹The name of the nation selling the timber.

²The name of the purchaser.

³Location of tract. This can be brief, since a detailed description is to be included in
Article 4.

⁴Area of Tract.

⁵Legal address of purchaser.

⁶Title and address of the corporate officer, such as vice-president for overseas
operations, empowered to act if the purchaser is a corporation.

⁷Official name and address of the agency or government department entering into
the agreement.

⁸Identify specific legislation.

⁹Title and official address of responsible officer, usually the chief of the forestry
agency.

¹⁰State period, such as 20, 30, or 50 years.

¹¹State time in months.

from the date of signing of this contract by both parties and to complete construction and initiate forest products manufacture in accordance with Schedule A, which is attached and made a part hereof.¹²

By the end of¹³ all manufacturing facilities will be in production to at least¹⁴ of their installed capacity. Should there be delays due to circumstances beyond the control of the purchaser, the seller, at its discretion, may grant additional time if it is in the best interest of the nation to do so. If the purchaser fails to complete the work specified in Schedule A within the agreed time, or authorized extensions thereof, and if the seller does not allow an extension of time, then the seller may terminate the contract for default, as specified in Article 23 hereof, and the purchaser shall have¹⁵ to remove his equipment and personal property. All physical improvements, including¹⁶ shall become the property of the seller.

3. The purchaser agrees to operate the forest products manufacturing complex specified in Schedule A, Article 2 of this agreement, at substantially the productive capacities indicated therein throughout the term of this contract. Except for reductions in production due to causes beyond the purchaser's control, including war, natural calamity or inadequate markets, no major changes in production rates of manufacturing processes will be made unless approved in advance and in writing by the chief of the federal forestry agency.

4. The timber conveyed by this cutting contract is located on a land area in¹⁷ more fully described in the plat and metes and bounds description, Schedule B, which are attached and made a part of this contract.

5. It shall be the duty of the¹⁸ to maintain the surveyed boundary lines, keeping them open so that a man may walk them and also to keep them marked by painted¹⁹ blazes.

¹²Schedule A should show agreed time (in months after contract date) for initiation and completion of each item of construction required by the contract. Specific manufacturing processes, types of products and normal production rates should be specified for each manufacturing facility.

¹³This should be the time to the last completion date for manufacturing facilities shown in Schedule A.

¹⁴State percentage.

¹⁵State time, in months.

¹⁶Enumerate kinds such as roads, pipe lines, power lines, buildings, etc., as applicable.

¹⁷Province or other local subdivision.

¹⁸State either purchaser or seller, as applicable.

¹⁹State kind and color or paint.

on trees or vines at intervals of not more than 10 meters. The maintenance and painting of these lines shall be the expense of
.....²⁰

6. The seller agrees to sell and the purchaser agrees to purchase:

Alternative Clause A ²¹

All timber marked for cutting and all timber to be marked for cutting on the area covered by this contract, said marking to be substantially in accordance with sample marking areas A, B, C and D, the descriptions of which, together with inventories of trees to be cut and to be left standing, are included in Schedule C which is attached hereto.

Alternative Clause B ²¹

All timber designated for cutting as described in Schedule C, which is attached and made a part hereof.

7. All timber must be cut and management and silvicultural practices conducted in accordance with the management plan prepared by²² and approved by²³ on²⁴ which is appended to and is a part of this contract and identified as Schedule D.

No deviations from the stipulations of the management plan may be permitted except as may be provided by amendments thereto recommended by the officer in charge of the sale and approved by the chief of the federal forestry agency. At intervals of not more than²⁵ years the forestry agency shall formally review the provisions of the management plan in the light of new technical knowledge and experience on the cutting area, and shall make such revisions as may be feasible to improve the efficiency and effectiveness of forest operations.

8. Payment for timber cut under this contract during the first²⁶ years after it becomes effective shall be at the price rates listed in Schedule E ²⁷ which is attached and made part hereof.

²⁰Purchaser or seller; if cost is shared, state proportions.

²¹Alternate Clause A applies where timber to be cut is to be marked; Clause B where timber to be cut is designated by species and dimensions. The inapplicable clause is to be deleted.

²²Author of plan.

²³Name and title of official approving plan.

²⁴Date of approval.

²⁵State period, usually 5 years.

²⁶Insert length of period - usually 3 or 5.

²⁷Schedule E should list, in detail, the contract price rates to be paid for timber sold.

During the second and subsequent²⁶-year periods of operation, the schedule of prices shall be adjusted in proportion to the average price index of²⁸ during the six months period beginning one year before the termination of the²⁶-year period, so that the unit price of each size and species shall increase or decrease in the same proportion as the change in said price index, provided that there shall be no change in price if the said index has changed by less than²⁹ percent and further provided that further changes in prices may be mutually agreed upon at the beginning of any²⁶-year period if justified by changes in prices or manufacturing costs for specific products or species, or by other economic factors.

9. Before cutting is started the purchaser shall deposit to the account of the seller in³⁰ the sum of³¹ to cover payment for stumpage to be cut. The value of stumpage cut and removed, based on measured volume, is to be deducted from this deposit. At any time when the amount on deposit is less than³² the forestry agency shall require an additional payment of not less than³³

The forestry agency may halt all cutting under the contract at any time when the balance in the stumpage fund is less than³⁴ and cutting may not be resumed until an additional payment of at least³³ has been deposited.

When the price of stumpage is adjusted in accordance with Clause 8 of this agreement, the minimum deposits and specified balances shall be adjusted in the same proportion.

10. The value of stumpage cut and removed shall be determined in the following manner.

[The following clause applies to tree measurement sales; it is to be deleted if timber is measured after cutting.]

In advance of the date specified in the management plan for cutting in any specific timber cutting block, the forestry agency will mark or designate the trees to be cut within said

²⁸State the commodity, as #2 common southern pine boards, or construction grade 3/8" Douglas fir plywood or other world standard. In some contracts prices are adjusted annually on the basis of a commodity index; additional negotiated changes should not occur more frequently than once in 3 years.

²⁹State minimum percent change, usually 5 percent or less.

³⁰Name and address of bank or government agency.

³¹State sum, which should at least equal the value of two month's cut at full capacity operation.

³²Usually the same as the total deposit required by the preceding sentence; should never be less than the value of 1 month's cut.

³³State amount, which should be a round number equal to or greater than the value of 1 month's cut.

³⁴Usually the equivalent of 1 month's cut.

block and will determine by appropriate tree measurement the numbers and sizes of trees of each species to be removed, and their sound volume. The value of timber to be removed will be determined by applying the prices in Schedule E to these volumes. The total value of all trees to be removed is the value to be paid for the timber in the block.

No cutting in a new block may be undertaken unless the amount of deposit in the stumpage fund, above amounts deposited for other blocks, is sufficient to cover the determined value of the block, plus an amount not more than 50 percent of the determined value, sufficient to cover estimated liquidated damages and costs of required regeneration, erosion control or other operations on the block. Unused funds held for liquidated damages and cultural operations shall be returned to the purchaser upon satisfactory completion of the work.

[If timber is to be scaled after cutting, the preceding clause should be deleted and the following substituted.]

All timber cut and removed under this contract will be measured after cutting to determine its net sound volume inside bark, in accordance with³⁵ Measurements will allow for unsound defect, and will reflect net sound volume.

Measurements will be made by representatives of the seller at points to be specified by the forest officer in charge of the sale. To facilitate measurement, purchaser's trucks or rail cars may be required to stop for scaling at designated points on cutting areas, at the manufacturing plant, or elsewhere, or logs at assembly points may be required to be arranged so as to be accessible for inspection and measurement. The seller agrees to provide sufficient scalers to avoid excessive delays for scaling.

The forest officer in charge will provide the purchaser summaries of volumes measured and values by species and size classes at³⁶ intervals; he will request additional stumpage deposits well in advance of the depletion of available deposits, but failure to receive such requests shall not absolve the purchaser of responsibility to maintain a balance in the amount required by Article 9 of this contract.

11. All trees marked for cutting or designated to be cut as specified in Article 6 of this contract shall be cut and paid for; all merchantable material in said trees shall be utilized in such a manner as to minimize waste. Where payment is determined by measurement of logs or bolts, material avoidably wasted shall be

³⁵State log rule, or other method of volume determination.

³⁶State period; monthly reports are usual, but bi-monthly or weekly statements may be desirable. Unless electronic computers are available, frequent reports may be costly, especially if there are many species.

paid for at the rates specified in Schedule³⁷ In determining avoidable waste, maximum allowable stump height shall be,³⁸ minimum merchantable diameter at stump height shall be³⁹ outside bark and minimum merchantable top diameter shall be⁴⁰ inside bark. Limbs exceeding⁴⁰ inside bark shall be considered merchantable if sound and reasonably straight.

12. Trees of species or classes not specified for cutting in Schedule B, which are cut or damaged, and trees specified for cutting and not cut, and material avoidable wasted as defined in Article 11 of this contract, if so specified, shall be paid for according to the prices set forth in Schedule F, ⁴¹ which is attached and made part hereof. When paid for at the rates specified in Schedule F, such trees and material shall become the property of the purchaser if removed and utilized.

13. The purchaser shall be responsible for the prevention and suppression of forest or brush fires, within the limits of the timber cutting contract area described in Article 4 hereof. The purchaser shall be responsible for payment to the seller for timber made unuseable by fire, except for damages from lightning fires and from fire originating outside the contract area, which entered the area in spite of due diligence on the part of the purchaser. Payment will not be made for trees which become unusable due to insect and/or fungus attack while standing. Any loss of trees cut, for any cause, is the responsibility of the purchaser and he is liable for payment to the seller for such trees. If a fire starts from causes other than lightning within the area covered by this contract, the purchaser shall also be liable for damages to⁴²

The personnel of the purchaser are obligated to fight fire either on the lands described in Article 4 of this agreement or on lands adjacent to these lands when called upon by the seller through its representative⁴³

The, ⁴⁴ at his discretion, may shut down the woods operations of the purchaser if in his opinion it would create a serious fire hazard to continue logging. If the shutdown is longer than

³⁷Show schedule applicable, usually the contract prices, but in some contracts it may be the penalty rates, Schedule F.

³⁸State allowable stump height, and allowance, if any, for buttressed butts.

³⁹State diameter.

⁴⁰State diameter.

⁴¹Schedule F will list prices to be paid for timber cut which was not marked or designated for cutting and for marked trees left standing, and in some contracts, for material avoidably wasted. The prices are usually at least twice the contract prices.

⁴²State items such as wild life, public utilities, damage to soil, etc. as agreed upon.

⁴³Usually chief of the forestry agency, or a local forest official.

⁴⁴Usually chief of the forestry agency.

....., ⁴⁵ then equal time shall be added to the term of the contract. Requests to shut down must be confirmed in writing.

14. The seller grants to the purchaser and his designated agents and employees the right of ingress and egress to the property described in Article 4 hereof, subject to the limitations set forth in Schedule G, ⁴⁶ which is attached to and made a part of this contract. The purchaser shall be responsible for all acts of his employees while engaged in activities related to this contract.

15. The purchaser shall be solely responsible for the maintenance in a good state of repair of the following existing transportation facilities: ⁴⁷ The ⁴⁸ shall advise the purchaser, in writing, when repair is needed. Failure to repair any of the listed transportation facilities within a reasonable time shall constitute a breach of this contract.

16. Upon termination of this timber cutting contract the purchaser shall have an option to extend its term for an additional ⁴⁹ years, upon notifying ⁵⁰ at least ⁵¹ but no more than ⁵² months before its expiration, and subject to acceptance by the purchaser of a revised working plan to be prepared by ⁵³. Mutually acceptable changes in contract terms may be incorporated in the extended agreement.

17. If the purchaser does not desire to exercise his option to extend this contract, then at the termination of the contract period he shall have an additional ⁵⁴ in which to remove any or all equipment, structures and other property to which he retains title. At the end of this period all items not removed shall become the property of the seller. All roads, bridges, utility lines and other improvements listed in Article 2 of this contract shall be transferred to the seller in good repair and operating condition.

⁴⁵State time in days or weeks.

⁴⁶Schedule G should specify (1) method of identifying designated employees, (2) specific limitations (if any) on their activities while on this land, (3) description of any areas from which employees are debarred, (4) provision for exclusion of employees from all or parts of the area, except as fire fighters, during periods of fire emergency.

⁴⁷List and identify. If list is long, or a map is needed, incorporate in the agreement as a Schedule.

⁴⁸State agency responsible, as Federal Highway Department.

⁴⁹State number of years, usually less than original contract term.

⁵⁰State whom, usually the chief of the federal forestry agency.

⁵¹State time in months, preferably at least 6.

⁵²Usually 12 or 24 months.

⁵³Usually the federal forestry agency.

⁵⁴State a reasonable period of time, usually 100 to 300 days.

18. If there is a dispute between grantee and grantor, then an arbitration board shall be set up, acceptable to and binding upon both parties. This board shall consist of a representative appointed by the purchaser, a representative appointed by the seller, and a third party selected by these two representatives.

If an arbitration board is formed, each party shall pay the cost and expenses of its representative and the parties will equally share the cost and expenses of the third participant.

19. No part of this agreement may be assigned to any third party without written permission of⁵⁵

20. In consideration of establishing the forest products manufacturing complex specified in Schedule A, Article 2 of this contract the purchaser shall be exempt from⁵⁶ for a period of⁵⁷ years from the date of this contract.

21. All activities of the purchaser and his agents in connection with the execution of this contract shall be conducted in accordance with all applicable laws and regulations of⁵⁸ including those referring to social security, minimum wages, and hospitalization. The minimum wage rates and prescribed benefits for employees in effect on the date of this agreement are shown in Schedule H attached hereto.

22. The⁵⁹ shall have the right and obligation to make periodic inspections of all phases of cutting and manufacturing under this contract, including production, extraction and management. If these inspections reveal any differences between what the purchaser is obligated to do and what is actually being done, then⁶⁰ should notify the purchaser in writing. Failure to remedy such specific deviations from contract obligations within a reasonable time after such notification will constitute default on this contract.

23. At the time of the signing of this contract, the purchaser has deposited with⁶¹ the sum of⁶² as an escrow account. If the purchaser fails to fulfill each and every term of this contract, including the schedules attached, or otherwise defaults in any way, the seller may terminate this contract and the escrow account may be retained, in whole or in part, by the government, as

⁵⁵State whom, usually the chief of the federal forestry agency.

⁵⁶State which such as corporate taxes, personal income tax, import and export taxes, and specify amount of reduction.

⁵⁷State period.

⁵⁸Name of nation.

⁵⁹State whom, usually federal forestry agency.

⁶⁰State whom, usually Chief Forester.

⁶¹State where, usually the central bank.

⁶²State amount, which should equal reasonably expected losses to the government from failure to complete the agreement.

liquidated damages. Should this occur, then the seller shall return to the purchaser the sum remaining in the stumpage account, less payments due the seller for logs cut and delivered to the industrial complex plus payment for any volume cut and not removed from the forests.

In the event of any default or noncompliance with this contract the seller, if it is in the best interest of the nation to do so, may give the purchaser a fixed period of time to conform to contract requirements and keep this contract intact, or he may permit one or more phases of the operations under this contract to continue while closing down one or more other phases pending correction of contract violations.

24. This contract signed this 63 64

.....
Purchaser

.....
Seller

[Document to be notarized and recorded.]

⁶³State date.

⁶⁴State locality.

PREVIOUS BULLETINS

1. References of value in studies of insects affecting the southern pines, an annotated list, by R. C. Thatcher, 1957. (Out of print.)
2. Directory of wood-using industries. (Out of print.)
3. Bibliography of forestry films and filmstrips. (Out of print.)
4. Root development of loblolly pine seedlings in modified environments, by M. V. Bilan, 1960.
5. Continuous forest inventory with punched card machines for a small property, by R. D. Baker and E. V. Hunt, Jr., 1960.
6. Point-sampling from two angles, by E. V. Hunt, Jr., R. D. Baker, and L. A. Biskamp, 1964. (Out of print.)
7. Films and filmstrips on forestry, by N. T. Samson, 1965. (Out of print.)
8. Soil moisture and soil temperature under a post oak-shortleaf pine stand, by G. Schneider and J. J. Stransky, 1966.
9. Silviculture of shortleaf pine, by L. C. Walker and H. V. Wiant, Jr., 1966. Price \$1.
10. Texas pulpwood production, by N. T. Samson, 1966.
11. Silviculture of longleaf pine, by L. C. Walker and H. V. Wiant, Jr., 1966. Price \$1.
12. Pine seedling survival and growth response to soils of the Texas Post Oak Belt, by M. V. Bilan and J. J. Stransky, 1966.
13. Directory of wood-using industries. (Out of print.)
14. Practical point-sampling, by E. V. Hunt, Jr., and R. D. Baker, 1967. Price \$1.
15. Silviculture of the minor southern conifers, by L. C. Walker, 1967. Price \$1.
16. Silviculture of slash pine, by L. C. Walker and H. V. Wiant, Jr., 1968. Price \$1.
17. Films and filmstrips on forestry, by N. T. Samson, 1969. Price \$1.
18. Geography of the southern forest region, by L. C. Walker and G. L. Collier, 1969. Price \$1.
19. Directory of wood-using and related industries in East Texas, Rev. 1969, by N. T. Samson. Price \$2.
20. A short history of forest conservation in Texas, by Robert S. Maxwell and James W. Martin, 1970. Price \$.50.
21. Diseases of forest trees and forest products, by A. F. Verrall, 1970. Price \$2.
22. Silviculture of southern upland hardwoods, by L. C. Walker, 1972. Price \$2.