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Richard P. Vlosky and N. Paul Chance



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Industry Structure and Market Potential
for Value-added Wood Products
in Northwest Louisiana

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Introduction

In 1996 an innovative approach was developed at the Louisiana Forest Products Laboratory to stimulate economic development and alleviate chronic long-term economic deterioration in rural resource-based regions (Vlosky et al., 1998). Targeting the secondary forest products industry as a driver for economic development, the methodology addresses a number of areas including markets for value-added products, industry labor skill requirements, training needs, sociological factors which affect and influence the labor market, and potential economic outcomes based on various industry development scenarios.

The methodology incorporates a holistic approach that emphasizes long-term sustainable industry development. The goal is to develop the wood products industry while adding value to existing resources, creating employment opportunities with transferable skills and maintaining the stewardship of renewable resources in rural communities.

As is the case with most economic development efforts, forest sector strategies rely on either retention and expansion of existing companies or attracting new industrial investment. In addition, most industry development efforts focus on value-added secondary processing (dimension products, furniture, flooring) rather than primary production (lumber and plywood) to retain and expand jobs in rural areas. Value-added secondary wood processing offers opportunities for increased profitability through higher margins and increased profits. Employment is encouraged with larger numbers of smaller local companies instead of a few large primary-processing plants. In addition, higher economic multipliers are realized in secondary manufacturing compared to primary conversion (Syme & Duke 1991).

Making secondary wood products often offers opportunities that primary processing does not normally offer. For example, secondary manufacturers can generally increase prices to make up for lost profits when raw material costs rise. Secondary products also earn higher profits by adding value and meeting specific customer needs. Secondary products can also lead to better use of resources. Making specialty products instead of commodities

allows a company to take better advantage of new markets. Secondary processing also allows a producer to respond quickly to new trends, such as home remodeling-repair markets (Syme & Duke 1991). In locales where jobs are in short supply, locally generated secondary forest products industry jobs that create transferable skills may offer a viable alternative to forced migration to maintain or increase employment (Skog 1991). Further, secondary forest products wages often exceed average wages of other jobs in rural areas, adding incentives for recruitment and development efforts aimed at secondary forest products industry companies (Skog 1991).

Many states and regions in the United States are diversifying rural economic opportunities through forest resource based industry sector development. Kentucky, Maine, Oregon, Pennsylvania and Washington are taking advantage of forest resources to improve economic conditions within their borders (Jones et al., 1989). In this study, industry development opportunities specific to northwest Louisiana were examined. This publication focuses on the forest products industry structure and market opportunities in this region of the state.

The Problem

In the wood products industry, Louisiana produces only \$.97 of value-added product for every \$1.00 of lumber created by the sawmills operating in the state. This compares to the southern average of \$2.13 of value-added for \$1.00 of sawmill product produced. Improvement of industry competitiveness can increase potential for jobs creation and resource use in the rural-based forest products industry. To attain this potential, however, a wide variety of issues must be addressed. For example, existing consumer market trends, location decision criteria, raw materials availability and applicability, labor force skills and training requirements, target market identification, recruitment and retention strategies, comparative advantages and effects on community stability should all be considered as part of an economic development initiative.

The "Study Region" parishes included are Bienville, Bossier, Caddo, Claiborne, DeSoto, Lincoln, Natchitoches, Red River, Sabine and Webster. (Figure 1). The area is chronically lagging the rest of the country in regard to employment and other economic indicators. In addition, forest resource depletion is exceeding sustainable levels for some key species. All parishes in the contiguous 10-parish region conform to Long-Term Economically Depressed (LTED) eligibility as defined by the U.S. Department of Commerce, Economic Development Administration.

Figure 1. Study Region



■ **Classifying Solid Wood Products** ■

Solid wood (as opposed to pulp and paper products) forest products can be broadly characterized as primary or secondary products. This classification is not always clear, but most industry observers agree on general definitions of the groups:

- Primary products are those which are produced directly from raw timber input. Examples include chips, lumber, veneer, plywood and their by-products.
- Secondary products use primary products as input for remanufacturing. Examples include various types of panels, engineered composites or dimension stock. Secondary products also include final consumer products such as furniture. This study focuses on the secondary, or value-added, sector of the industry.

■ **Overview** ■

Northwest Louisiana has a significant primary and secondary forest products industry base. Most of the region's secondary forest products companies are located near urban areas. Conversely, the primary producers are located in rural areas or adjacent to smaller rural communities.

Individual forest product company site visits were conducted as part of the analysis of the current value-added wood products sector. In addition to site visits, numerous telephone interviews were conducted.

The forest products industry in the study region is a vital industry producing numerous products from ample forest resources available. These products are shipped to markets around the world, and demand for the region's products is growing.

Demand is especially good for grade hardwood lumber used in flooring, cabinetry, furniture and other high value-added applications. In addition, utility grade hardwood materials are used in many applications including transportation-oriented

products, construction applications and miscellaneous other product categories. Softwoods originating in the area have almost unlimited applications from pulp and paper, cellulose by-products, construction industry applications, domestic and foreign as well as land-based and marine applications. Growing demand from around the world is causing softwood stumpage value to soar. Study region producers are responding by increasing planting as well as investing in more efficient technologies. The outlook of most managers in the region is for continued market opportunities, although competitive pressures are expected as is scarcity of resources.

Managers are concerned about the availability of qualified labor and the lack of training for technicians as well as opportunities to upgrade the skills of existing labor. Of particular concern is the lack of basic skills and work maturity training in entry-level labor. At the skilled and semi-skilled levels, managers reported an absence of computer operation and logic control system skills. Also, the availability of labor skilled in the maintenance and operation of hydraulic and computer controlled hydraulic systems was identified as critical skills needed in the region by the larger employers.

Objectives

In this report, we examine the structure of the secondary forest products industry in the study region. A brief overview of the Louisiana forest products industry is followed by an in-depth discussion of the industry sector in the region. In addition, specific development opportunities and obstacles to development are discussed. Specific objectives for this segment of the study were to:

1. Identify producers in the region.
2. Determine the capabilities and capacity to support future development of the region's existing primary and secondary forest products companies.
3. Determine the product mix of the region's secondary companies.

4. Determine purchase patterns for forest products produced in the region.
5. Determine current products and markets.
6. Identify manufacturing processes and equipment used.
7. Determine the presence of sawmills, dry kilns, millwork plants, particleboard, hardwood lumber, etc., that could support significant secondary development.
8. Determine if current and potential future companies are able to compete in the markets they do/will serve.

Methodology

One core component of the methodology is development of baseline data on the value-added wood products industry. Elements of an industry analysis are varied and include raw material types and supply status, current and potential products that could be produced, business development plans, technology applications, distribution channels and needs, and impediments to growth and development.

A list of secondary forest products companies operating in the region was developed from a number of sources including state agencies, telephone directories, association membership lists and private individuals. The list was limited only to companies in the 2400 Standard Industry Classification (SIC) Code group (sawmills, planer mills, architectural millwork, plywood and other structural members) and the 2500 SIC group (cabinets, furniture, mobile homes, portable buildings, pallets, outdoor decks and outdoor furniture).

Telephone calls were made to confirm that each company was in operation, to discuss the research project and to request participation. An appointment was made to visit each company willing to participate, and site visits were scheduled. Telephone interviews were conducted with all companies not visited. At the conclusion of the project, survey data were analyzed in conjunction with phone interview information. In addition to information

gathered through site visits and telephone interviews, a fax survey of wood products companies (both primary and secondary) in the region was conducted. Twenty-nine companies responded out of 65 faxes transmitted (45 percent response rate). Survey responses determined industry characteristics and potential to provide development opportunities in the region.

Results

Major Products Produced

Architectural Millwork

There is significant development of the architectural millwork industry segment in the region, with a number of companies distributing regionally and nationally. In addition, at least one company reports strong international demand for its products. Architectural millwork products are used in residential and commercial construction, furniture, cabinets and picture frames.

Cabinets

Most cabinetry produced in the region is used locally by the residential and commercial construction industry. Small shops, generally operating as subcontractors for larger construction firms, make these products. Products in this category include cabinets for kitchens, bathrooms and non-residential markets.

Furniture

Most of the furniture produced in the region is manufactured by small companies and is either one-of-a-kind custom furniture or small batch productions of outdoor furniture.

Hardwood Lumber

Red oak and white oak lumber represent the greatest volume of hardwood lumber products produced by companies in the region. Other hardwoods include cottonwood, poplar, ash, elm and maple. All species are available kiln-dried as well as green. Kiln drying is required for many applications such as furniture and cabinet production as well as typically being a requirement

for export customers. Based on conversations with company managers, southern hardwoods are readily accepted in the market and are in high demand across a broad spectrum of applications around the world (Foreman 1996; Cornelius 1996).

Pine Lumber, Plywood, Medium Density Fiberboard and Oriented Strandboard

Demand for Southern yellow pine is high around the world in construction applications. Virtually all Southern yellow pine lumber producers reported that most of their products are used by the construction industry. In addition to the domestic U.S. market, Spain, Italy and the Caribbean are major export markets for Southern yellow pine produced in the region.

Plywood, medium density fiberboard (MDF) and oriented strandboard (OSB) produced in the region also are shipped to U.S. and export markets. Much of the plywood and OSB is marketed through home centers, and MDF is used in many applications including fine furniture, cabinets and molding.

Pallets

A number of companies in the region produce pallets for the transportation and paper industries. These companies use low grade hardwoods that seem to be in ample supply. Further study of this sector and related sectors may provide opportunities for regional companies.

Panel Products

Plywood, oriented strandboard (OSB) and medium density fiberboard (MDF) are panel products available to regional producers. These raw materials for the secondary industry are sold worldwide for use in a variety of construction industry applications.

(See Appendix A for a list of companies visited during the site visit phase of this program.)

Although the overarching study focuses on value-added or secondary wood products, the region's sawmills are included in this research to better ascertain raw material availability. Hardwood lumber producers visited are generally small family-owned

mills that produce for a fairly localized market and rely heavily on familial connections to maintain their competitive position in the market.

Technologies Employed

The production technology employed by most of the study region's companies is largely low-tech in nature. In general, only the larger companies participating reported the use of computer-controlled laser technology to increase yield in their production processes. Only a small number of companies use sophisticated molding machines in their operations. Wide belt sanders, table saws, panel saws, heavy material handling equipment and fairly standard material processing tooling were prevalent at the sites visited.

The state of the technology was somewhat surprising, given that several of these companies compete successfully internationally. Closer study of the markets served by these companies may offer insight as to how these companies are able to compete successfully in the markets they serve.

On the other end of the technology spectrum, however, engineered wood products firms in the study region use state-of-the-art technology from recognized equipment producers. The use of efficient production processes is crucial to be competitive in the markets in which they operate. The investments in the plants represent hundreds of millions of dollars.

Product Distribution

Distribution channels varied from very short-channeled local markets to complex international distribution systems. Various distribution channels include producer to final user, producer to local contractor to end user, producer to jobber, producer to wholesaler to retail national distribution, producer to regional retail outlet and producer to end users located throughout the United States.

The larger companies' products are distributed around the world, principally Europe, South America and the Pacific Rim. These companies are fully integrated companies, complete with sophisticated marketing and distribution systems. While most of

the products are used by the construction industry, there is very little distribution through home building centers to retail markets. Most of the products produced by the companies are used in industrial markets are distributed through large wholesalers and brokers. The commodity nature of these products requires the sale and movement of large quantities of products with a minimum of distribution and marketing costs. Many of the larger firms indicated that stable long-term relationships were extremely important to their distribution systems.

Materials Used

The principal hardwood materials used include grades of southern oak, northern and Appalachian oaks, soft maples, cherry, mahogany from number 2 common to FAS and Selects and Better. Softwoods include Southern yellow pine logs and timbers, spruce and fir and treated SYP 2x6 and 2x4 lumber. Panel products used by companies using panel products include domestic products, including Louisiana-produced pine products and imported products from a number of overseas sources.

While much of the southern hardwood is cut and milled from in-state sources, a significant amount of hardwood lumber originates from outside Louisiana. Virtually none of the material used by the only mobile home producer originates in Louisiana. Further, other producers using SYP indicated they purchase their material in a commodity market and as such shop price from both in-state and out-of-state vendors.

Obstacles to Development

Numerous issues were identified by the owner/managers with whom we spoke concerning future development of their companies as well as for the industry in general in the northwest Louisiana area. The degree of dependence on and the effect of international political and economic activities had a decidedly important impact on many of the companies visited.

Other issues include tariffs on the import of raw materials, the lack of exporting technical assistance or knowledge of sources for such assistance, governmental regulation restricting access to public forestlands as well as environmental and administrative regulation controlling harvesting quotas. In addition, local sales

taxes and tax codes, the complexity of complying with state and federal regulatory requirements, lack of local access to sea-going containers and the ubiquitous poor labor quality issues were the most often reported constraints. Another issue voiced by virtually every company visited as well as others attending the informational meetings is the need to reduce the amount of waste being lost to landfills. The company executives visited recognize this factor as a major loss of potential revenue and an issue that is becoming one of environmental concern as well.

Assistance Needs

While labor force training issues are a concern for all company executives visited, training in management and marketing issues was pointed out as important for future development by three companies. Several companies have aggressively pursued the development of such a training program for their needs. Most companies have not developed formal training programs, however, largely because of the disruptive nature of formal training in an operating situation. Most of the people interviewed indicated that establishing such programs internally is simply too time consuming and expensive, and locating the available resources for such training has been very difficult in addition to the aforementioned problem.

Figure 2 shows the distribution of respondent companies by annual sales in 1996. Just over 25 percent of respondents reports sales less than \$500,000, and 38.5 percent reported sales over \$10 million. On average, for the industry as a whole, secondary companies in Louisiana have sales of \$1.2 million, and primary company sales average \$24.6 million.

Figure 2
NW Louisiana Forest Products Industry
Company Size by Sales Category
 (n=29 companies)

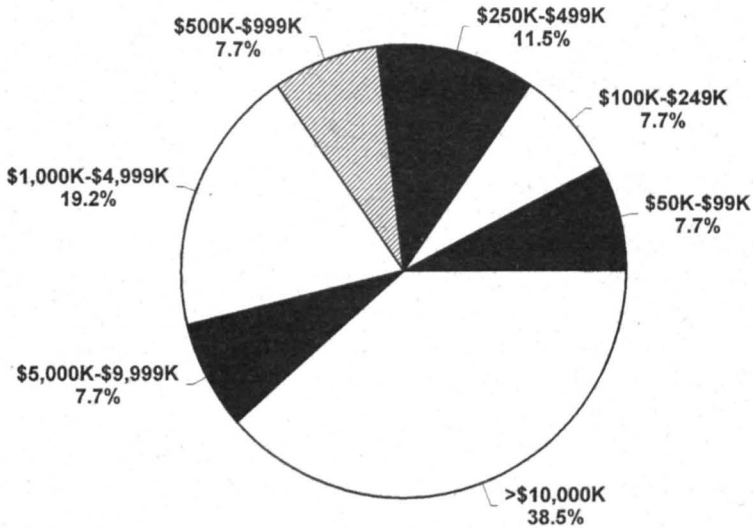
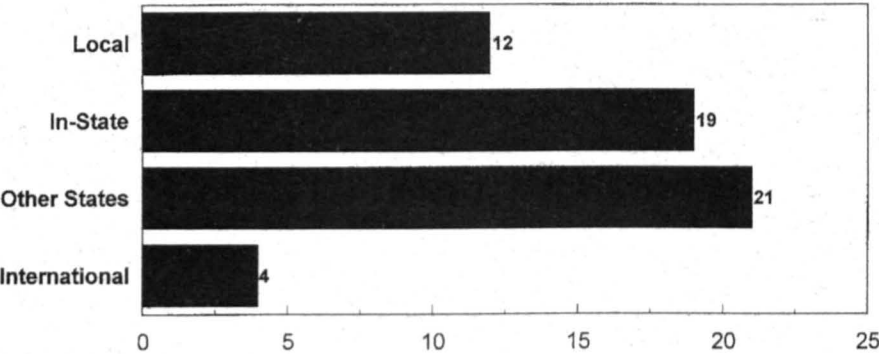


Figure 3 indicates the market reach for respondent companies. Markets are varied, with most companies selling product in national markets. Only four companies sell in international markets (14 percent of respondents).

Figure 3
NW Louisiana Forest Products Industry
Geographic Markets in 1997
 Number of Companies



Respondent companies indicated current employment of 4,946 employees. Most of these employees are production workers (89 percent); the balance is in administrative and management positions. Based on employment in 1997, a 6.9 percent increase was projected (341 new employees) over 1998-2000. Thirty percent of respondent companies planned employment additions in 1997. An additional 14 companies (56 percent) planned to increase employees in the 1998-2000 period.

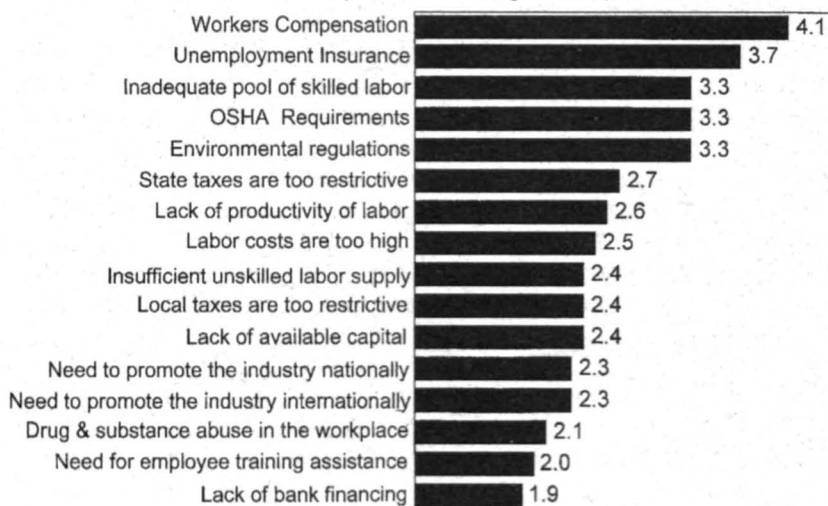
Using a 5-point scale, questions were posed indicating whether an issue is a problem for the company to compete (1=not a problem to 5=is a significant problem). As seen in Figure 4, the top two issues are workers' compensation and unemployment insurance. Additional issues above 3.0, the midpoint, are a lack of a skilled labor pool to hire from and OSHA and other environmental regulations. Statistical analysis (one-way analysis of variance) indicates no differences in responses between companies regardless of size or industry sector.

Figure 4

NW Louisiana Forest Products Industry Factors That Hinder Ability to Compete

(n=29 companies)

1=not a problem to 5=significant problem



According to respondents, the most important factors preventing industry development in Louisiana are the cost of workers' compensation insurance and corporate taxes. Regardless of the obstacles, development opportunity for the region exists through value-added forest products manufacturing. Existing secondary forest products companies in the region, particularly in areas where a number of related companies are located, represent significant development potential.

Market Opportunities

Target value-added markets and products were evaluated using market (size, growth, technology, competition) and operational factors (required facilities, infrastructure, capital requirements, raw material access and distribution needs). Additionally, considerations were made to optimize the match of the products and markets.

To examine the attractiveness of participating in the forest products industry, it was important to understand the overall drivers of product supply and demand. Accordingly, an analysis was conducted of the macro-demand drivers (housing starts, interest rates, global supply and demand, demographics, etc.) for wood products demand and the outlook for major raw material markets (lumber and panels) and finished products for the secondary wood products industry.

Corporate-level market strategy tools were adapted and applied in the research for both to identify competitive factors that can stimulate industry sector growth and to identify domestic and export opportunities. This market analysis can aid in making recommendations on industry development strategies and target market entry and development strategies.

A major factor in determining the probability of industry success is the market structure for current or potential products. Market-based criteria were developed to assess potential wood products and industry segments and to select those that appear to have the best long-term potential for implementing this expansion. The criteria used were:

- raw material availability and access
- available markets (local, regional, national or global)
- market growth rate
- competitive factors
- provides employment opportunities
- distribution infrastructure exists or can be developed
- manufacturing facility requirements
- Infrastructure requirements
- waste facilities requirements (sewers, landfills)
- capital requirements
- work force skill requirements

One goal was to identify factors that would encourage recruited firms to relocate in the region or expansion of current companies. Larger furniture manufacturers in the study were most concerned with having an available, trainable labor force, and smaller manufacturers looked for an existing supply of skilled labor. Technical assistance in the area of training was valued by both. Other important factors in selecting a site for furniture manufacturing plants were distribution/transportation and access to raw materials. The primary form of transportation of concern to manufacturers is trucking; therefore, a potential location is considered attractive if it provides good access to major north/south and east/west highways and major trucking lines. Although proximity to raw materials is important to both large and small manufacturers, it is more critical to smaller manufacturers.

Northwest Louisiana has several unique opportunities to pursue future development of the secondary forest products industry. Seven commercial timber species with moderate to high commercial value exist in the region. An additional four species are considered to be of low commercial value. Even those low commercial value species represent significant opportunity, however, because these species are used in a variety of utility grade applications such as pallets, crates, boxes, marsh matting, baskets, promotional furniture and cabinets. In addition, research

is under way on the feasibility of short rotation fiber farming using cottonwood in paper-making processes.

Target Species

Southern Yellow Pine

Southern yellow pine is the most plentiful species in the region. Pine is used in many applications far too numerous to list here, but construction applications are by far the most plentiful. While the principal users of pine located in the region are paper producers, numerous suppliers of the material are located in close proximity to the study region. Further, because a number of the region's hardwood producers are currently shipping to flooring producers, we suggest that an attempt be made to promote the region as a likely location in which to locate a cut-up operation either as an industrial recruitment effort or preferably as an integration effort of an existing operation.

Ash

Data on this species indicate commercially viable quantities are available in the region. There are two primary types of ash in the region, white and green. In general, the two species are not sold separately in the market; they are both sold simply as ash. Ash is considered a moderate to relatively high value wood, depending on the grade. This wood is used in a number of applications such as cabinets, furniture, boxes and bats, to name a few.

The important point is that this species is being produced in the region in both green and kiln dried products as well as rough and surfaced. Again as a furniture and cabinet material, the availability of this resource and ready acceptance in current markets provides the opportunity for vertical and horizontal expansion strategies for existing companies as well as industrial recruitment opportunities with companies now purchasing from within the region.

Especially attractive are opportunities for cut-up operations and components parts production for the furniture industry and architectural millwork. In addition, flooring applications would be another favorable application because many pre-manufactured

or pre-finished flooring products can use very short pieces in manufacturing. This allows for use of lower grades. Greater value-added from marginal lumber can be realized.

Cottonwood/Basswood

This species is a fast growing bottomland species with numerous applications including cooperage, crates, boxes, caskets, concealed furniture parts as well as panel product production and excelsior (a packing material). A more recent use of cottonwood is in high-grade paper production. This species has the ability to regenerate from twigs and limbs. In addition, the trees grow to merchantable size in about 6 - 8 years under good growing conditions. Ongoing silviculture research on this species indicates southeastern United States river bottom sites provide ideal locations for the growth of this valuable renewable resource. Given that worldwide demand for paper continues to rise and government subsidies for certain row crops are beginning to be reduced, this species may well represent an opportunity for land use shifts into short rotation cottonwood farming. Such land use practices would create additional forest industry development opportunities for the region.

Elm

Available data on this species indicate that virtually all size class categories have increased in volume in the region. Both elm types, American and winged, are generally considered utility woods and are of relatively low value. They are used widely in such applications as promotional furniture, pallets, boxes, various container applications and baskets, however. While low cost, this wood is widely used in the pallet industry and other transportation applications.

Sweetgum

This ubiquitous species is found throughout the southeastern United States in copious amounts. But, in the study region, data indicate that quantities of most size classes of this species are increasing. A low value lumber product, the veneers produced are valued significantly higher. This increased value as a veneer may result from even graining and the wood's ability to stain well. Sweetgum is used extensively in furniture, cabinets, millwork, baskets, railroad ties and marsh matting.

Red Oak

This very high value species is used in numerous high value-added applications including flooring, furniture, cabinets and millwork. Low-grade red oak is used in many utility applications including railroad ties, marsh matting, pallets and crates. Conversations with producers of red oak lumber in the region indicate that this species is being shipped throughout the United States and around the world. Only the pines represent as broad a spectrum of development potential as this resource.

One of the major complaints about southern hardwoods is that there is tremendous color variation, mineral staining and inconsistent latewood ring growth. Even with these shortcomings, brokers of southern hardwoods report that the availability of long lengths overcomes the other problems in most applications. Because so much of this resource is shipped to furniture, flooring, millwork and conversion van applications testifies to the ready acceptance of the region's red oak lumber in the world market. Because of the very high value of the region's red oak resource and its ready acceptance, extensive efforts should be made to promote further value-added in those sectors which use this material, especially in the furniture, millwork, flooring, pallet and marsh matting product sectors.

White Oak

Although this valuable hardwood is not as plentiful as the red oak species and there has been some depletion in the intermediate size classes, there remains a significant volume of white oak in the region. One company reported it sells all the white oak it can produce to regional customers. Another company reported export demand for white oak to be very high. In general, white oak is used in the production of furniture, flooring, cabinets, railroad ties and cooperage. Again, because of the very high value-added potential of this species, those companies now engaged in its production should be targeted for vertical or horizontal integration opportunities as well as assisted in expanding export opportunities for component parts and dimension stock production.

Other Utility Grade Species

Four other commercially viable species in the region are considered utility grade species. The utility classification is based on wood characteristics of the species and not simply on the basis of grading. The woods are 1) sugarberry (hackberry), 2) tupelo-blackgum, 3) water hickory and 4) willow. In general, these woods are of low value.

The development potential of this group as a whole is significant because of the combined volumes of the four species. Because these species are bottomland species, however, availability may be a problem because of flooding and general wetness of the areas in which these species thrive. But, because these species are used widely in pallets, crates, marsh matting and other similar applications, their value for jobs creation cannot be overlooked.

■ Comparative Product Sector Analysis ■

To identify those market segments that hold the greatest promise for development in the region, a comparison of criteria discussed earlier was conducted. For each of the criterion, a weight from 1 to 10 was assigned based on its relative necessity for industry growth in each sector. This weighting scheme, which is consistent for all market segments analyzed, was developed from information gathered in the resource assessment, industry structure and market analysis sections of the research project as well as interviews with industry representatives. Following, in descending order of importance, are the product sectors recommended for further study and possible development.

Hardwood Wood Components

The hardwood wood components industry was determined to be the most attractive sector for further development in the region. The literature contains a number of studies that examine criteria for selecting hardwood lumber suppliers. For example, in a study conducted by Bush et al. (1991), hardwood lumber buyers were asked to indicate the importance of a variety of supplier characteristics. They found competitive pricing, supplier's reputa-

tion and rapid delivery to be important. A study of major U.S. furniture and cabinet manufacturers found that price and product quality were identified as the two leading factors for choosing a supplier by wood component buyers. Other factors include: on-time delivery, dependability of supply, required lead time and species availability (Anonymous 1994).

In a study by Vlosky (1996), the most frequently cited reason that respondents purchase raw material from out-of-state suppliers is product availability. The other two reasons of any consequence are that out-of-state suppliers offer better prices and higher product quality. These findings suggest that if in-state suppliers can increase development of the wood components customer base and offer quality products at competitive prices, more raw materials will be processed in-state, thereby increasing the value-added to the resource.

The two most important and equally ranked success criteria for respondent companies are product quality and development of long-term customer relationships. The importance of relationship factors to company success is further indicated by the subsequent highest ranked factors, offering high levels of customer service and overall company reputation. An understanding of the customer base and development of a long-term orientation can be a significant factor in building or maintaining market share.

Ready-To-Assemble (RTA) Furniture

One of the most significant changes in the wood products industry has been in the growth of the ready-to-assemble (RTA) furniture segment. This type of furniture is assembled by the consumer at home. Innovations including 32mm system processing, composite panels and overlay application processes have aided the design and production of these products.

U.S. manufacturers have achieved an advantage in this market by installing highly productive manufacturing lines and by maintaining a price advantage on a low profit margin product. Today, producers are trying to upscale a typically low price product by including wood veneers and solid wood trim and moldings.

Ready-to-assemble furniture is growing and maturing as a product line. It does not look like RTA anymore. Many pieces are difficult to distinguish from traditional goods. RTA shipments in the United States are forecasted to grow by more than 10 percent annually over the next two to three years. Much of the recent growth in this market is caused by the demand for medium to upper-end home theater and home entertainment pieces, followed by home office and youth bedroom.

Ready-to-assemble (RTA) furniture received the second highest score of the five segments (442/600 or 74 percent rating). In particular, the high growth rate for this segment in national markets was an attractive attribute. In addition, because no RTA producers were identified in the study region, competitive pressures are low. Price point strategies for RTA furniture are flexible, with a wide range in potential pricing and quality.

Raw materials for RTA furniture, including industrial particle-board, wood veneer, hardwood lumber, medium density fiberboard and high density laminates, are all available within a reasonable supply reach.

The ready-to-assemble market offers the region's companies an opportunity to vertically or horizontally integrate by providing dimensioned materials and pre-cut parts. These value-added products could offer the customer significant savings by reducing the amounts of inventories held at higher costs as well as reduced transportation and waste factor costs over current raw material inventory costs.

Architectural Millwork

Following RTA furniture, architectural millwork is another high potential candidate for growth and expansion, with a 72 percent rating. Both domestic and export markets exist to accommodate such an expansion. In particular, stable growth rates for new private construction and repair and remodel, which account for 49 percent and 47 percent of millwork markets, respectively, indicate steady growth. Raw materials are not a limiting factor for this segment. Ample hardwood lumber, softwood lumber, medium density fiberboard and other inputs are available within an effective supply reach.

Treated Products

Southern yellow pine is the most plentiful species in the region. Much of the volume of Southern yellow pine produced in the South is treated and manufactured into a myriad of products. As supplies of natural insect retardant species such as redwood and cedar decline, the use of treated pine products will increase. We suggest that an attempt be made to promote the region as a likely location in which to locate a treatment facility and/or manufactured product operation either as an industrial recruitment effort or preferably as an integration effort of an existing operation.

Household Furniture

As income rises, a significantly larger share of household expenditures is spent on furniture. Consumers age 45-54 spend the most for furniture, followed by those age 35-44, and by consumers 25-34 years of age. The fastest growing segment of the U.S. population for the next decade is projected for those age 45-64, who will number nearly 60 million by the year 2000.

Recent increases in U.S. demand also were met by foreign sources as wood household furniture imports soared 19 percent in each of the last two years, capturing 22 percent of the market. The expected slowdown will limit growth over the next five years to annual gains of 3.9 percent, bringing U.S. sales to \$11.5 billion by 1999. Recent strength has been noted for the following product categories - cabinets, rockers, wall units and credenzas, china and corner cabinets, wardrobes, conventional waterbeds, infants and children's bedroom furniture, and ready-to-assemble furniture, particularly home entertainment centers.

Although demand growth is tied to an aging population, household furniture is the second largest secondary wood products sector in Louisiana after cabinets. The furniture industry is concentrated in metropolitan areas and markets in a fairly narrow radius of about 150 miles. Current demand within existing markets appears to be met, leading to a rating of 65 percent. With additional promotion to end users as well as aid to increase production efficiencies, however, furniture companies located in the regions may be able to capture a larger share of the existing market.

The furniture companies located within the study region are by and large very small companies producing one-of-a-kind custom creations. While most of these companies are not likely to grow much beyond their current size, some do offer the potential for the production of component parts. Because these craftsmen possess the technical skill to operate in very close markets rife with competition from virtually every major furniture company in the world, they should not be overlooked for their ability to manage larger operations with component and dimension products capability. In addition, this potential to develop cut-up operations may represent a logical next step in the evolution of the wood products industry in the region. In that many furniture firms are currently purchasing large volumes of sawn lumber from the region's existing firms, the opportunity may well exist for joint ventures between existing companies with the downstream customers. Planners should assist interested parties located in the region in approaching likely customers about such joint ventures or further expansion of existing companies to provide additional services to their existing customer base.

Hardwood Flooring

Data reported by the USDA indicate that the hardwood flooring industry has experienced rapid growth for nearly 20 years. More recent data from the Oak Flooring Manufacturers Association (1997) confirm that the trend in increased hardwood flooring use is continuing. Because many of the region's hardwood producers ship dried hardwood products significant distances to flooring manufacturers, there is reason to expect that such a plant located close to the resource would offer companies operating in that market segment significant transportation opportunities over competitors. Hardwood flooring production would experience adequate raw material availability and reasonable potential for distribution and transportation infrastructure. Limiting factors include competition from an established industry in Arkansas and competitive markets.

Cabinets

The U.S. residential cabinet industry is expected to expand in 1998 with mid-range priced offerings in new construction as the dominant area of growth. In addition, remodeling and repair may

offer opportunities for those companies positioned to take advantage of this market segment. Because cabinet production is so closely tied to housing, it ranked last of the major product segments examined, with a ranking of 57 percent. The main reason for such a low rating is that available markets (local, regional, national or global) are narrow and saturated. The fact that the cabinet industry is the largest secondary wood products sector in Louisiana with a strong competitive environment supports a cautious recommendation for expansion.

Market Strategy

Given relative attractiveness of expansion or investment in different forest sector market segments, a logical next step is to discuss possible market strategies. Based on development of generic company-level market strategy options (see Abell and Hammond 1979, Ohmae 1982, Day 1986), Figure 5 depicts the characteristics of each cell in the generic market strategy matrix.

Figure 5

		Competitive Strength		
		STRONG	MODERATE	WEAK
Market Attractiveness	HIGH	<i>Extend Position</i> <ul style="list-style-type: none"> invest to grow at maximum digestible rate concentrate effort on maintaining strength 	<i>Invest to Build</i> <ul style="list-style-type: none"> challenge for industry leadership build selectively on strengths reinforce vulnerable areas 	<i>Build Cautiously</i> <ul style="list-style-type: none"> specialize around limited strengths seek ways to overcome weaknesses withdraw if indications of sustainable growth are lacking
	MEDIUM	<i>Build Selectively</i> <ul style="list-style-type: none"> invest heavily in most attractive segments build ability to counter competition emphasize profitability by increasing productivity 	<i>Invest Selectively</i> <ul style="list-style-type: none"> protect existing programs concentrate investments on segments where profitability is good and risk is relatively low 	<i>Limit Expansion</i> <ul style="list-style-type: none"> look for ways to expand without high risk; otherwise minimize investment and rationalize operations
	LOW	<i>Protect & Refocus</i> <ul style="list-style-type: none"> manage for current earnings concentrate on attractive segments defend strengths 	<i>Harvest</i> <ul style="list-style-type: none"> protect position in most profitable segments upgrade product lines minimize new investments 	<i>Divest</i> <ul style="list-style-type: none"> sell at the time that will maximize cash value cut fixed costs and avoid investments

Adapted from: Abell and Hammond 1979, Ohmae 1982, Day 1986

An application of this model to the northwest Louisiana forest products industry is shown in Figure 6. For hardwood wood components and RTA furniture, the two segments with greatest level of market attractiveness, it is recommended that new investment be made to develop these sectors.

Millwork and treated product manufacturers have a moderate competitive environment and market attractiveness, particularly in niche markets. Accordingly, these segments should be targeted for selective investment where risk is minimized.

Figure 6.

		Market Strategy Map Competitive Strength		
		STRONG	MODERATE	WEAK
Market Attractiveness	HIGH	<i>Extend Position</i>	<i>Invest to Build</i> <ul style="list-style-type: none"> • Hardwood Wood Components • RTA Furniture 	<i>Build Cautiously</i> <ul style="list-style-type: none"> • Hardwood Flooring
	MEDIUM	<i>Build Selectively</i>	<i>Invest Selectively</i> <ul style="list-style-type: none"> • Architectural Millwork • Treated Products 	<i>Limit Expansion</i> <ul style="list-style-type: none"> • Household Furniture • Cabinets
	LOW	<i>Protect & Refocus</i>	<i>Harvest</i>	<i>Divest</i>

Summary

Industry Structure

- 1) The region's forest product industries represent important job creation opportunities. World demand for products manufactured by the region's companies is increasing. Numerous products are manufactured and shipped to markets around the nation and world.
- 2) Most of the secondary forest products companies are small and use relatively unsophisticated standardized manufacturing processes and equipment. These companies are able to compete in the markets they serve, however. Those companies that have grown and prospered have done so by exploiting specialty niches and cutting costs.
- 3) Demand is especially good for grade hardwood lumber used in flooring, cabinetry, furniture and other high value-added applications. In addition, utility grade hardwood materials are used in many applications including transportation-oriented products and in construction applications.
- 4) Softwoods originating in the area have an almost unlimited application from pulp and paper, cellulose by-products, construction industry applications, domestic and foreign as well as land-based and marine applications. Growing demand from around the world is causing the stumpage value of softwoods to soar. Study region producers are responding by increasing planting as well as investing in more efficient technologies to take greater advantage of the region's resources.
- 5) The outlook of most managers in the region is for continued market opportunity, primarily because of the increased scarcity of forest resources in other regions of the United States.
- 6) Related to the availability of resources and increased utilization efficiencies is the issue of recycling of currently unusable by-products. The issue of waste use was identified as a major issue.

- 7) Managers are concerned about the availability of qualified labor. There is a lack of training opportunities for new employees as well as to upgrade the skills of existing labor. Of particular concern are the lack of basic skills and the need for training of entry-level labor. At the skilled and semi-skilled levels, managers reported an absence of computer operation and logic control system skills. Also, the availability of labor skilled in the maintenance and operation of hydraulic and computer controlled hydraulic systems were identified as critical skills needed in the region by the larger employers.
- 8) The most important factors preventing manufacturing industry development in the region are the cost of workers' compensation insurance and corporate taxes. A focus on value-added manufacturing to create skilled higher paying jobs will require an effort of local and state officials aimed at leveling the playing field with other states in terms of the impact of manufacturing disincentives. In addition, legislation aimed at bringing workers' compensation premiums in line with loss payment decreases was identified as beneficial.

Markets and Market Potential

- 1) The study region is faced with several unique opportunities to pursue future development of the secondary forest products industry. Seven commercial timber species have been identified with moderate to high commercial value. Another four species would be considered as low commercial value. Even species with low commercial value species represent opportunities in a variety of utility grade applications such as pallets, crates, boxes, marsh matting, baskets, promotional furniture and cabinets.
- 2) Southern pine raw materials of desired timber size and quality will continue to decrease as more pressure is placed on the region to replace anticipated production declines in the Northwest. This indicates a need to add more value to the existing resource.

- 3) Hardwood supplies should remain stable, provided no major industrial market developments are made. Softwood lumber will continue to be restricted in width and length because of the reduced availability of larger saw timber. One factor contributing to softwood saw timber availability will be the continuing short rotation trend on pine plantations producing primarily pulpwood.
- 4) Improving manufacturing technologies is an important consideration for industry development.
- 5) Opportunities exist for small and midsize firms to produce intermediate and final products. Examples include dimension stock, millwork, timber laminating, end- and edge-gluing and surface overlaying.
- 6) Market niches will emerge to meet market needs by providing additional value-added production or services. New product development will be required to convert commodities into products that can be readily used without further processing.
- 7) Where possible, integration of businesses into informal and formal networks will provide smaller companies with the ability to compete and will provide larger companies with the ability to change quickly to meet market needs.
- 8) Partnerships with material suppliers and product purchasers will continue to increase so companies can compete better.
- 9) The keys to success in secondary products are manufacturing a high quality product, pricing that product competitively and then providing unbeatable service to the customer.
- 10) Product group opportunities with potential for growth and expansion include hardwood components, ready-to-assemble furniture, architectural millwork, hardwood flooring and treated softwood value-added products. Beyond these broad product groups, there are likely to exist niche opportunities for a number of wood products.
- 11) On a limited geographical market basis, household furniture and cabinets have a moderate competitive environ-

ment and market attractiveness, particularly in niche markets. These segments should be targeted for selective investment where risk is minimized.

- 12) Ready-to-assemble (RTA) furniture is growing and maturing as a product line. It no longer looks like RTA. Many pieces are difficult to tell from traditional goods. RTA shipments in the United States are forecasted to grow by more than 10 percent annually over the next two to three years. Much of the recent growth in this market is caused by the demand for medium to upper-end home theater and home entertainment pieces, followed by home office and youth bedroom.
- 13) Larger furniture manufacturers are most concerned with having an available, trainable labor force, while smaller manufacturers look for an existing supply of skilled labor. Technical assistance in the area of training is valued by both.
- 14) Other important factors in selecting a site for furniture manufacturing plants are distribution/transportation and access to raw materials. The primary form of transportation of concern to manufacturers is trucking. Therefore, a potential location is considered attractive if it provides good access to major north/south and east/west highways and major trucking lines. Although proximity to raw materials is important to both large and small manufacturers, it is more critical to smaller manufacturers.
- 15) The pallet industry is one of the major forest product industries in the United States. The industry is the largest consumer of domestic hardwood lumber. In addition, the demand for wooden pallets in the United States is constantly increasing. Although not one of the top seven product groups identified for further expansion, opportunities for pallet industry expansion should be considered.

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Appendix A Companies

Company		
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Allen Millwork, Inc.		eveport
Almond Bros. Lumber C		
ARK-LA-TEX Pallets		ighton
Arnold Forest Products		eveport
B&S Hardwoods, Inc.		sland
Bolinger Millworks		sier City
Broadway Chip & Pallet Corp.		ggold
Cason Pole & Piling		ishatta
Cooper Chair		iden
Custom Cutters		s
D J Mills-Dura-Oak Syst		eveport
Davis Lumber		venca
Don's Manufacturing		thville
Hanna Manufacturing		infield
Hood Industries		ishatta
Hust Woodwork		thville
La. Wood Moulding		ner

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LayFlat Products, Inc			eveport
Logansport Lumber, Co.			gansport
Lumber South, Inc.	J.R. Mitchell	P.O. Box 304	Robeline
Martco-Chopin	Jerry Buckner	1695 Hwy. 490	Chopin
Mims Lumber Co.	Jack Mims	165 Radio Station Rd.	Mansfield
Oak & New Treasures	Sharon McLemore	Box 11997, Hwy. 80	Dixie Inn
Pelican Wood, Inc.	Don Brick	900 Pierremont Rd. Suite 107	Shreveport
Quality Wood	John Paul	Rt. 2 Box 218, Plant Parish Rd. 706	Coushatta
Rushing Custom Sawworks	Mac Rushing	404 Box Factory; Rt. 2 Box 290	Homer
Sabine Wood Products	Ronny Broadway	5340 Tx Rd., 1717 Recknor Rd.	Many
Shreveport Pallet Co.	Clint Fontenot	Grimmett Dr.	Shreveport
Southern Components	Bob Ward	7360 Julie-Francis St.	Shreveport
Tharpe Cabinets (Out of Bus.)	Mark Tharpe	310 Temple Rd.	Minden
The Woodchuck	Mitch and Patti Mitton	2782 Cook Rd.	Ruston
Trus-Joist Macmillan-Ltd	Mike Wolf	234 Industrial Ave.	Natchitoches

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