

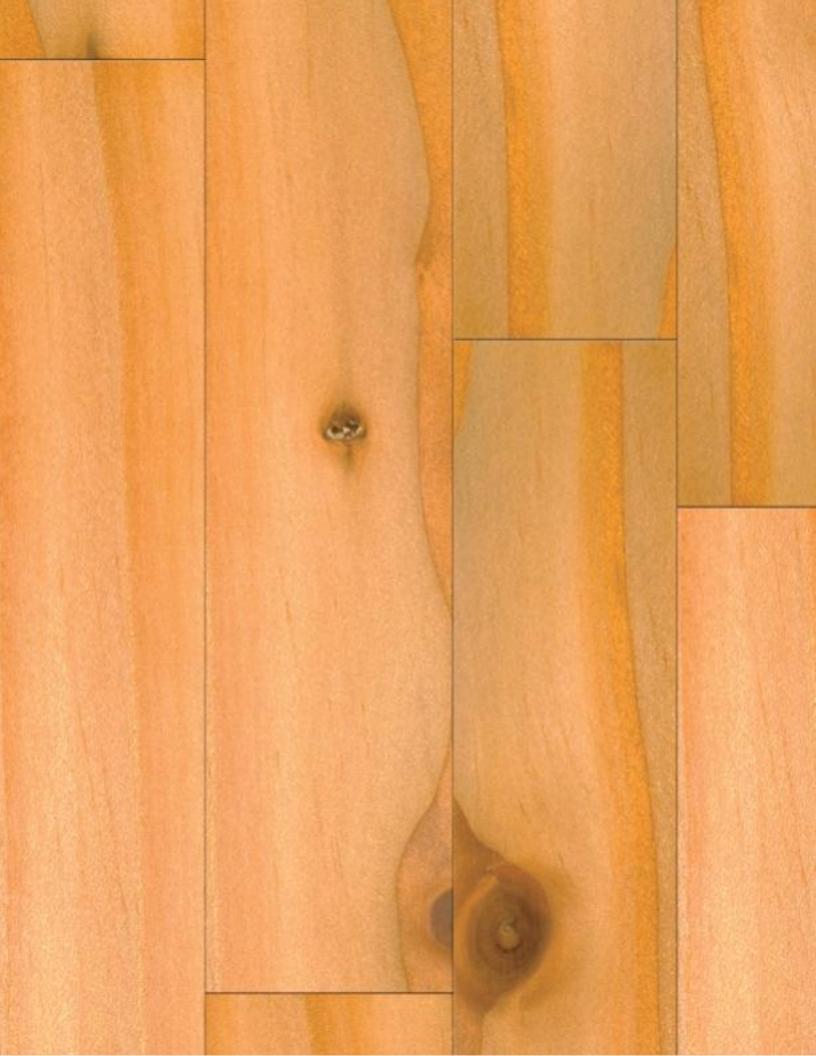


#### FORESTRY TRADE MISSION

A Path for Florida Timber

Florida Department of Agriculture and Consumer Services Charles H. Bronson, Commissioner

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#### INTRODUCTION:

#### Trade initiative launched to open China market to Florida wood products

In March 2002 I met with Bi Gang, deputy consul general with the People's Republic of China's Consulate General's Office in Houston, to lay the groundwork for Florida trade officials to visit China. It became apparent that we needed to engage our Division of Marketing and Development to take advantage of its existing network of contacts in China developed over the past several years during the Department's successful campaign to open the Chinese market to citrus, and seriously pursue an export market for Florida wood products.

A Florida trade delegation – composed of industry representatives, state marketing experts, and a research analyst, traveled to China to explore opportunities for

exporting Florida wood products. Discussions were held in Hong Kong, Guangzhou, Shanghai, Beijing, and Dongguan, which is a major distribution center with over 2,000 furniture manufacturers, dealers and registered importers of timber. The results of the trip and the market potential discovered are presented in this report.

China and other Asian nations have rapidly growing populations with more and more discretionary income. While concrete is still preferred for most of their homebuilding, we're beginning to see a steady move toward wood frame structures. Even more promising, China has an insatiable appetite for wood flooring, paneling, furniture and interior molding. Because China banned logging in 18 provinces a few years ago, it has contacts with many foreign suppliers to meet its timber needs. This is a golden opportunity for our state's southern yellow pine and cypress products. Florida remains a leader in timber management resources. Therefore, we're willing to assist with the maintenance and expansion of Chinese forests, which comprise 13 percent of China's land mass. Whereas forests cover an impressive 48 percent of Florida, the world average is 31 percent.

Florida must act now before others capture this extremely promising market. China's recent entry into the World Trade Organization resulted in reduced tariffs on wood products. Tariffs on plywood, particleboard, oriented strandboard, flooring and fiberboard have dropped from an average of 18 percent to 4 percent. You can look for our Department to emphasize wood products in this market now and in the future.

Our mission is to accelerate international relationships and utilize marketing as a means to increase sales abroad for our agricultural industries. Our meetings with Chinese leaders went very well, and the prospects of doing business with that country are high.

Charles H. Bronson

Commissioner of Agriculture

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Florida, USA

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Thank You

# About the Timber Trade Mission

onstruction companies in the People's Republic of China are busy building 4.1 billion square feet of new housing to accommodate the country's growing middle class. While most of those homes will be constructed using traditional concrete, a growing number in the \$30,000 to \$40,000 range will be constructed of wood. The use of wood framing, roofing and other home construction products is on the rise in China, along with the education process that ensures that growth. Promoting interior design and wood products to architects, property developers and interior designers will provide new opportunities for Florida wood products.



Jan - July 2000 vs Jan - July 1999



Economic conditions continue to improve for the Chinese middle class, due largely to China's entry into the World Trade Organization. The removal and modification of restraints such as high tariffs, quotas and restrictive construction regulations, is resulting in a shift toward consumer goods. Consumers that are able to afford new homes are spending more of their disposable income decorating them with furniture, paneling and flooring. An affluent new generation views local products as inferior so the demand for imports is high. They want the latest, the newest, the best.

Ten years ago, Chinese families were content to pass older furniture down to the next generation; today many choose to replace the old with newer items every four to 10 years. Ten percent of 120 million urban households will redecorate every year. Each year another 10 million newlyweds will spend between \$600 and \$1,000 furnishing their new homes or apartments. The need for lumber will grow in China each year which equates to hundreds of millions of dollars of new purchases. This expanding market is attracting worldwide attention as China seeks suppliers for forestry resources due to shortages created by the effects of deforestation and the resulting logging ban in 18 provinces.



government relationships in Hong Kong, Dongguan, Guangzhou, Shanghai and Beijing that will be utilized for future sales. The delegation identified trade restrictions and barriers, developed an understanding of ports and infrastructure, and established contact with product associations and businesses.

Understanding and developing a new market requires time, money, patience and commitment. The Chinese do business with people they know and trust. Even in the face of lower prices and stiffer competition, they will maintain and develop business relationships based on personal contacts. The Timber Trade Mission was successful in establishing solid relationships. As a result, is not unreasonable to anticipate millions of dollars in sales eventually being realized by the Florida timber industry.







# In Review

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wenty-one percent of all the people in the world live in China. That's one out of every five people on Earth. The statistics are staggering. Most first-time visitors are taken back by the crowded appearance, and it is difficult to believe the country is destined to grow for another 25 years.

Currently, China has a one-child-per-family policy. If strictly enforced, population growth will slow down, but

there will still be 1.3 billion people in Mainland China 50 years from now. In other words, the population will simply "shrink back" to what it is today.

While China has five times as many people as the United States, it has only half as much arable land and about a third which is forested. Chinese agriculture is effective, but the country still relies on imported food.

The paradigms of mass marketing shift when contemplating activities in China. When executing a campaign in one major city like Beijing, more people than the entire population of Florida can be reached. By targeting just the emerging middle and upper-middle classes, messages to 250 million Chinese can be delivered. Chinese teenagers outnumber all the people who live in the United States.

Modernization is occurring rapidly throughout the country. A current economic boom, driven by exports, continues to fuel expansion. The burgeoning middle and upper-middle classes hunger for "Western" products.

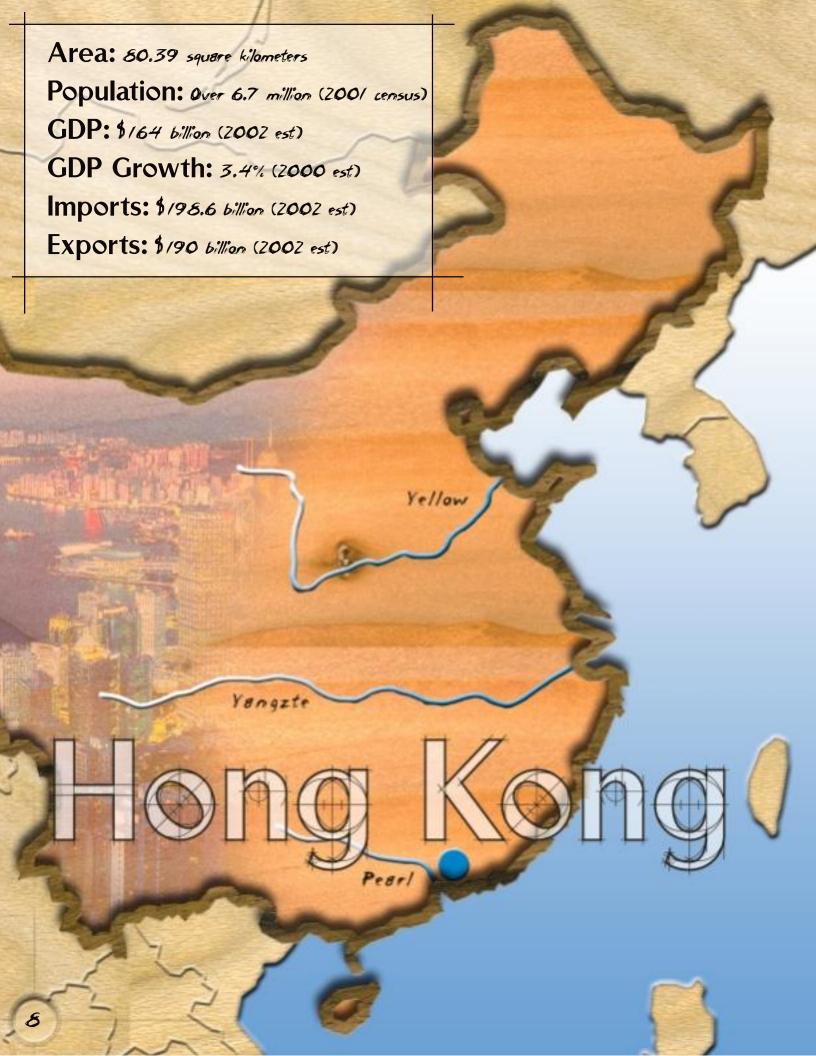


Millions of entrepreneurs own and operate businesses. These individuals generate large incomes when compared to working-class citizens.

Laymen incomes are between 5,000-10,000 yuan per year (less than \$2,000 U.S. at current rates). Yet, with relatively low comparative salaries, the Chinese save nearly 40 percent of their income compared to less than 1 percent in the United States.

Rough Mix of the Wood Import Market in China

"The use of wood framing, roofing and other home construction products is on the rise in China."



#### Hong Kong in Review

Compact and accessible, Hong Kong is composed of Hong Kong Island, Kowloon, the New Territories, and more than 260 outlying islands in the South China Sea. From local markets to heritage sites to the hustle and bustle of daily life, Hong Kong is teeming with non-stop action.

A British colony until 1997, Hong Kong was founded as a place to conduct business and trade, and it has done so aggressively and successfully ever since. The world's third-largest financial center after New York and London, Hong Kong is the "Wall Street of Asia," with banking, international insurance, advertising, and publishing among its biggest enterprises.





"Combining 150 years of colonial influence with 5.000 years of Chinese tradition gives Hong Kong a magical mystique."

"Hong Kong, whose name means fragrant harbor, is one of Asia's most prosperous and most cosmopolitan cities."

Hong Kong is a duty-free port and a shopper's paradise that attracts 6.3 million visitors a year. Everywhere are brand labels, international designers' latest merchandise, boutique outlets, shopping malls and lively market streets filled with vendor stalls. Billboards, posters, neon and shop displays send messages to eager consumers that all things American and European are desirable.

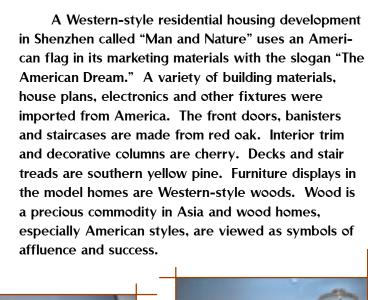
Changes are occurring in Hong Kong at an incredible pace. Relatively new buildings are being torn down to make way for skyscrapers, whole neighborhoods are being obliterated in the name of progress, reclaimed land is being taken from the shrinking harbor area, and traditional villages are being replaced with satellite towns. Most of Hong Kong consists of chrome and glass skyscrapers, huge housing projects and miles of glowing signs.

In the past 150 years, the population of Hong Kong has exploded from a few thousand to more than 6 million, making it one of the most densely populated areas in the world. The Guinness Book of World Records cited 14,482 people per square



mile. Because of its dense population and limited land space, Hong Kong has acute housing deficiencies. So, for the past 50 years, Hong Kong has pursued one of the world's most ambitious housing projects, with a goal to provide every Hong Kong family with a home of its own. Half of Hong Kong's population now lives in government-subsidized public housing — a higher percentage than anywhere else in the world.

Shenzhen, north of Hong Kong on mainland China, approximately a 40-minute drive from Hong Kong, is an innovative city. Its residents are well educated and young, with an average age of around 26. A great number of the residents commute across the border into Hong Kong to work. The recent dramatic rise of cross-border property deals, particularly in Shenzhen, is due to low interest rates, higher returns, and increased demand from young to middle-aged buyers. Housing in Shenzhen also has a higher potential to increase in value. Investors experience a return of about 33 percent over their purchase price of just a year ago, which is much higher than the average return from a property in Hong Kong. Land Power Chairman Michael Choi stated that Hong Kong residents are optimistic about the Shenzhen property market and continue to invest there.

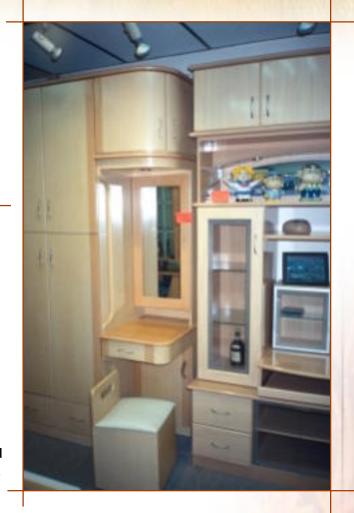






convince Chinese furniture manufacturers to use pinewood in interior design products will provide a way to insert Florida timber into that niche market." — Janaki Alavalapati. Ph.D. University of Florida. Forest Resources and Policy

On July 1, 1997, Hong Kong became a special administrative region within China, with its own laws, budget and tax system. It retained its free port status and authority to negotiate international trade agreements, thus preserving its economic freedom and capitalist lifestyle.

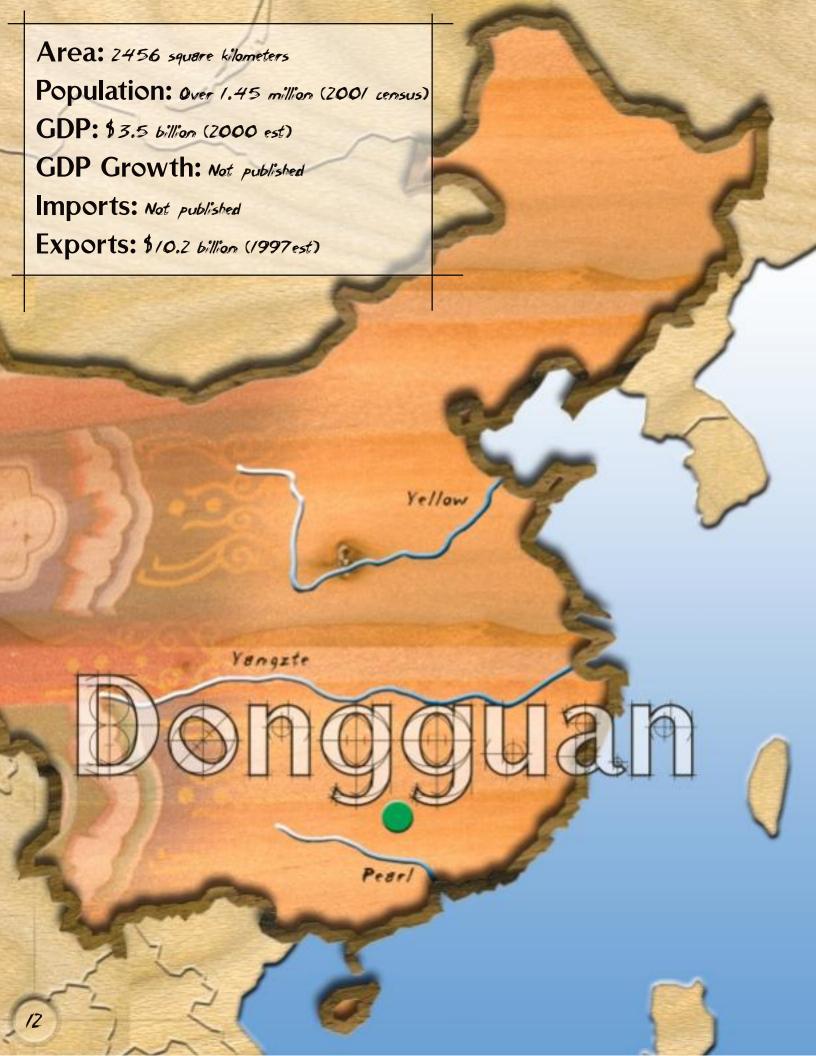


Hong Kong International Terminals (HIT), located in Hong Kong's Kwai Chung Port area, is the busiest container facility in the world. Barges come down the Pearl River Delta or from the River Trade Terminal in Tuen Mun to dock and unload containers at HIT at an astounding rate. This port facility handles over 175 million tons of cargo per year, three times that of Miami, Florida's 56 million.



Hong Kong's government has launched a program to update its railways. Plans call for investing over \$25 billion in 12 different railway projects in the region over the next 15 years. These projects include the Port Rail Line for rail freight to the Kwai Chung container terminals such as HIT.

Nicholas Ng, Secretary for Transport, said the investment underlines the government's commitment to developing infrastructure within Hong Kong. It is also an effort to maintain Hong Kong's position as a regional transportation and business hub.



#### Dongguan

#### Dongguan in Review

Dongguan, a city of 1.5 million people, is located in the corridor between Shenzhen, Guangzhou, and Hong Kong. It is a magnet for returning overseas Chinese, including over 30,000 Taiwanese. Formerly an agricultural area in the heart of the Pearl River Delta and rich with fertile valleys and plains, Dongguan has only recently become one of the largest manufacturing centers in mainland China for furniture, shoes, apparel, personal computers, and computer accessories.

There are more than 13,500 small manufacturers and assemblers originating from Hong Kong in Dongguan. Dongguan is an important producer of computer parts, and nine of Taiwan's top 10 parts producers have a presence there. Manufacturers in Dongguan account for half of the world's mouse output, 30 percent of all personal computer drives, and 20 percent of all scanners. Nokia has two production lines in Dongguan, which is now the Finnish company's largest production base for mobile phones. In the first two months of 2001 alone, Dongguan received \$208 million of overseas investment, an increase of 53 percent over 2000. The affluent, well-paid employees of these companies have created a modern middle class with increasing amounts of disposable income.

"Dongguam, is located in the south of China in Guangdong Province at the mouth of the Pearl River."

"The indented coastlines surrounding Dongguan, with their excellent natural harbors, have a tradition of foreign trade that dates back to the arrival of Arab merchants during the Tang Dynasty in 6/8 A.D."



Furniture manufacturing companies have been working hard to develop an international reputation for Dongguan as China's "Capital of Furniture." Shanghai and Beijing are considered the "Capitals of Business" and affluent people from those cities buy furniture from Dongguan. In March 1999, the First Famous Furniture Exhibition Fair was held in Dongguan, sponsored mostly by local furniture manufacturers. In March 2002, the Provincial Bureau of Foreign Trade and **Economic Cooperation of Guangdon** Province promoted the event as an international exhibition. This provided the region's manufacturers with a tremendous opportunity for global exposure, investment and growth. As a result, the

seventh International Famous Furniture Exhibition Fair was held in a new, custom-built, 130,000-square-meter exhibition hall — Guangdong Modern International Exhibition Center in Dongguan. This fair boasted over 2,000 exhibitors, mostly furniture manufacturers from Dongguan that produced approximately \$1 billion worth of product for export in 2000. Much of the wood used in this production is imported.

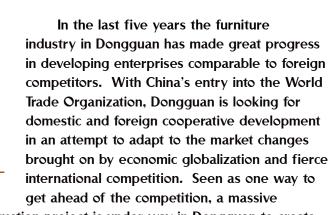
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#### Dongguan

The local government in Dongguan has made economic and technical development a high priority, which is enthusiastically supported by the Chinese government. Dongguan's private sector businesses have formed an enterprise union, known as the Dongguan City Hou Jie Chamber of Commerce (HJC), that mirrors the function of an American Chamber of Commerce. One-third of its 100

dues-paying members are involved in the furniture business. This liaison between small business and government has strengthened the community of Dongguan and allowed cooperation and a progressive exchange of ideas. The HJC's activities focus on promoting business expansion as well as improvements in transportation, telecommunication, electric power systems, water supply and environmental protection.





construction project is under way in Dongguan to create a "Boulevard of Furniture," a four-lane avenue lined with massive showrooms and exhibit halls for the manufacturers and dealers. Chinese consumers are looking for superior products and Dongguan is planning for the future and working hard to provide them.



"It is our hope that your visit to our town is the very beginning of our long-lasting friendship, and that we will witness more opportunities for cooperation in a variety of fields, especially in the field of wood trade and the furniture industry."

— Governor Fang Maoming of Housie

Town. Dongquan. May 8. 2002



#### Dongguan

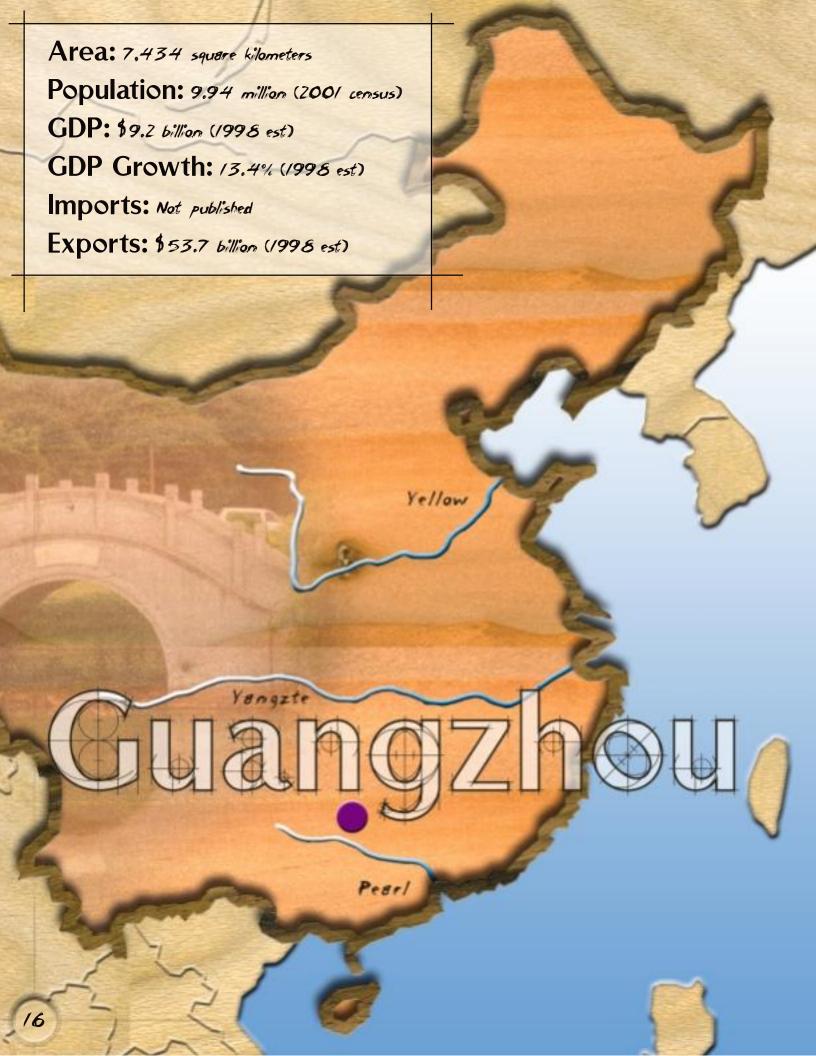


Most of the 2,000 or more furniture manufacturers produce their own plywood, but need timber and chips for that process. Instead of importing finished wood products, Chinese manufacturers prefer to import raw timber materials to use in value-added production, thereby leveraging the country's abundant labor resources in producing competitively priced furniture. Higher-quality wood is used for finishing, and most manufacturers prefer American oak or pine, due to a current fashion and design trend toward lighter toned woods. This wood is purchased through buying agents in Hong Kong. Dongguan furniture industry experts recommended that Americans interested in selling wood in China should set up an office and well-stocked warehouse in China. The Dongguan Xingye Timber and Plywood Market leases over 2000 booths to manufacturers and dealers that handle timber, plywood, paneling, molding, and other decorative materials.

"People in China want quality. If you have a quality product, you should have no problem selling here." — Dickson Leung, Managing Director of Dongguan Dickson Furniture Factory Co., Ltd. And President of the International Furniture and Decoration Association.

May 10, 2002





#### Guangzhou in Review

Guangzhou, the capital of Guangdong Province, is a major port-city situated on the Pearl River. It is also the Chinese city most experienced in dealing with Europeans, who have been trading there for over 400 years. The Portuguese were the first Europeans to trade in Guangzhou in 1516, followed by the Dutch and the British.



Individual incomes in Guangzhou are among the highest in the country. Decades of exposure to advertising from Hong Kong and extensive wholesale distribution networks have helped create some of the most sophisticated consumers in China. With a population larger than Michigan, this single city leads the way in consumerism in Guangdong Province. Employees in Guangzhou are among the wealthiest in China and can afford a variety of imported products, while demanding the high quality expected by their counterparts in other areas of the world.



A 2000 survey conducted by Nangang Daily reported that Guangzhou families have an average of two mobile

phones, and one in every 10 families owns a car. This makes the city an attractive base for consumer goods companies. Some of the prominent companies who have offices in Guangzhou include Procter and Gamble, Colgate Palmolive, San Miguel, Avon, Pepsi, Wrigley, Kellogg and Amway.

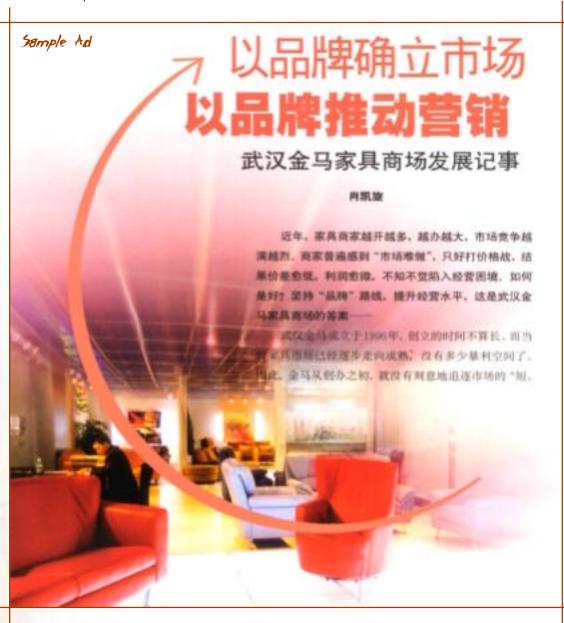
"Guangzhou, located in Guangdong Province at the center of the Pearl River Basin. is one of the richest agricultural. industrial and commercial shipping regions in China."

"Colonized by the Quin in 221 BC. Guangzhou came under Chinese control during the Tang Dynasty in 6/8 A.D and became a major port. attracting foreign traders from as far away as the Middle East and Central Asia."

"Guangzhou, once just a collection of villages, now produces 25 percent of Chinas Gross Domestic Product and 40 percent of its exports."

# Guangzhou

The Chinese government actively promotes and supports business in increasing revenue coming into the country. To achieve this, China has established special economic zones in its capital cities. Each of these is divided into localized zones with specific tax benefits, policies and facilities supported by the government. In attempt to unify and simplify commerce practices these regionalized policies are scheduled for nationalization by 2006.



Near Guangzhou's city center is the Tianhe High Technology Zone. Established in 1988, it seeks to attract investment from electronics, electrical engineering and chemical firms. Companies with a presence in the area include Siemens, AT&T, Ericsson and Sanyo. This zone accounted for a quarter of foreign investment in Guangzhou in 2000, due mostly to its efficiencies in goods processing, customs clearing and access to an improving transportation infrastructure. The people employed by the companies in these zones are wealthy and affluent compared to the average Chinese worker. They use some of their of disposable income to travel internationally and know how Westerners live. Western lifestyle is studied and emulated by this new generation of Chinese "yuppies."

# Guangzhou

In April 2001, Guangzhou Port and the Guangzhou Harbor Bureau signed a cooperative contract with the Port of Singapore Authority to increase its container transportation capacity. Both sides will put up \$50 million for the project. Singapore recognized the port area's significance and bought into the project out of necessity. The port area, seen as a funnel of commerce, is comprised of Guangzhou, Huangpu and Shihang. It contains



137 berths, 27 of them capable of handling 10,000 deep-water transit vessels, making it the fifth-largest container port area in China. In 1999 it handled more than 100 million tons of cargo. Lin Shjusen, the mayor of Guangzhou, announced plans to continue development at the port, including a second phase of work on its sea channel.

The Chinese government operates a number of lumber facilities in Guangzhou that lease plots to individual import and export businesses. The companies, which operate around the clock, provide government subsidized on-site dormitory space for workers. Brokers from Hong Kong,

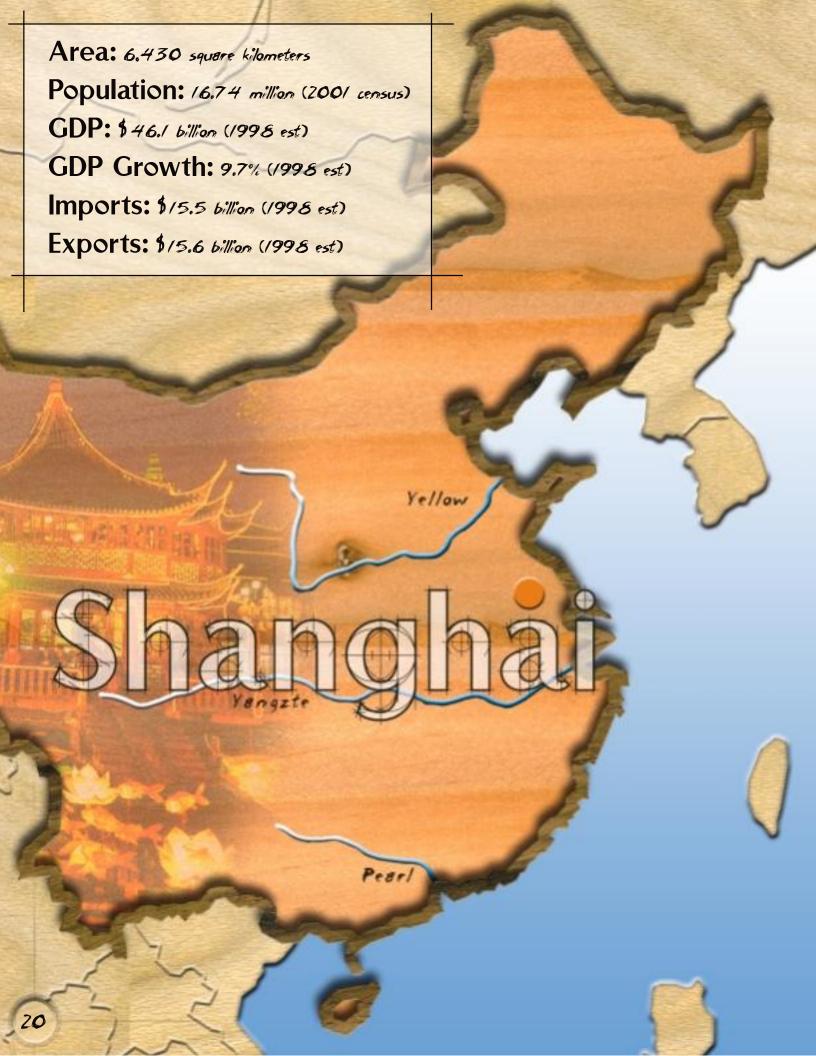
Dongguan, Shanghai, Beijing and other cities come here to buy logs for shipment to major industrial centers throughout China. The majority of the lumber received here comes from Indonesia and Africa. If this tropical timber becomes scarce as predicted, there will be greater demand for a reliable supplier such as Florida.



"Despite the supply of wood coming in from other countries, there is a warm reception for receiving sample products from Florida." — Jeff Doran,

Executive Vice President of the Florida Forestry Association.

May 2002 in a timber industry report



#### Shanghai

#### Shamghai im Review

"Shanghai" means "go to the sea," and for 500 years it was a small fishing village on the banks of the Huangpu River, only 17 miles from the mouth of the Yangtze River. In the 19th century, its potential as a harbor was recognized by foreign powers and the city flourished, becoming a center of commerce and industry. Today, Shanghai is a vitally important financial, retail and distribution center in China. Receptiveness to foreign ideas and culture has also earned Shanghai a cosmopolitan reputation.

In the early 1990s government officials in Beijing decided to push reforms on a national scale by opening Shanghai to foreign investment. By focusing on Shanghai, an old industrial city, rejuvenation took place that encouraged direct investment into the interior provinces along the Yangtze River. Shanghai is now taking the lead in opening up sectors of the economy previously off limits to foreign trade and financial investors.

As economic reform and growth intensified in the 1990s, the number of development zones in Shanghai increased dramatically. Over 40 industrial zones have been established by the government, each with its own infrastructure standards and incentive packages. One of the most prominent is the Pudong New Area. Located on the eastern bank of the Huangpu River, it is the largest zone of its kind on the China coast. Strongly backed and funded by the government, development of the Pudong is considered an important part of modernizing Shanghai and reviving its past glory.



"Shanghai is reclaiming its status as Chinas industrial, financial and commercial powerhouse and now boasts more foreign investment than any city in the world. It is also a vibrant center for fashion, shopping and nightlife."



"Since 1994, over 3.600 skyscrapers have been constructed in Shanghai. That is ten times the number of skyscrapers found in Manhattan. New York."

Shanghai is one of China's busiest ports and expansion plans are under way to increase container-handling capacity constrained by shallow water depths. New deepwater ports are being constructed in and around Shanghai in anticipation of the boom in foreign trade predicted with China's accession to the World Trade Organization (WTO). Improvements in Shanghai's terminal infrastructure are key in order to move cargo in and out of the country efficiently.

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A special Export Processing Zone was established in 2000 near Pudong Airport to improve customs clearance efficiency. An electronic data center run by the government in this zone tracks import and export cargo in a centralized database. Advantages offered to businesses with offices here include tax and customs incentives and easy access to roads, airports and railways.

Shanghai's government owned and operated facility, the Fu Ren Special Market for Valued Timber, leases space to over 100 timber merchants and has become one of the most influential imported timber trading centers in eastern China. Fu Ren is renowned for its flooring and plywood products, and its imported wood market is the first of its kind in Shanghai. Timber brokered here includes product from the United States, Russia, Europe, Africa, Southeast Asia and Australia.





With over 1,700 employees, the Brilliant Timber Company is one of China's largest wood manufacturing joint ventures between government and private business. Established in 1996 with a \$7.2 million total investment, the company reported sales of \$790 million in 2000. Brilliant produces veneer, plywood and flooring. Products are sold throughout China and are exported to the United States, Japan, Australia, Korea, Israel, Italy and Mexico. Logs are imported from New Guinea, Indonesia and Malaysia.

Quantities of American pine, walnut, maple and white oak are beginning to appear on the Chinese market, but prices are not yet competitive. The timber dealers in Shanghai are not as familiar with American wood grade and use applications as they are with that of the wood from other countries, so marketing and education are crucial. Representatives from both Fu Ren and Brilliant use sample shipments of finished, graded lumber to facilitate marketing American wood to buyers.

A new generation of affluent homebuyers is emerging in Shanghai. Shanghainese are recognized as China's trendsetters. A current trend is toward home ownership, home improvement and interior décor, American style. Old areas of Shanghai, like the Xintiandi District and Xingye Road in the Luwan District, once frequented by Mao Tse-tung and his colleagues, have been transformed into trendy housing, restaurants and shops. A higher-than-average income level encourages this increased spending on housing. Another consideration is that Shanghai leads the country in consumer loans; the value of new personal loans has recently doubled. More than 20 foreign banks have gained the right to loan Yuan (Chinese currency) to financial institutions and, with entry into the WTO, these banks will also be able to make loans directly to Chinese consumers. "It is very obvious that the market



in China represents an excellent opportunity for the people in Florida to provide forest products." - Harry Rogers, President, Big River Cypress and Hardwood, May 13, 2002

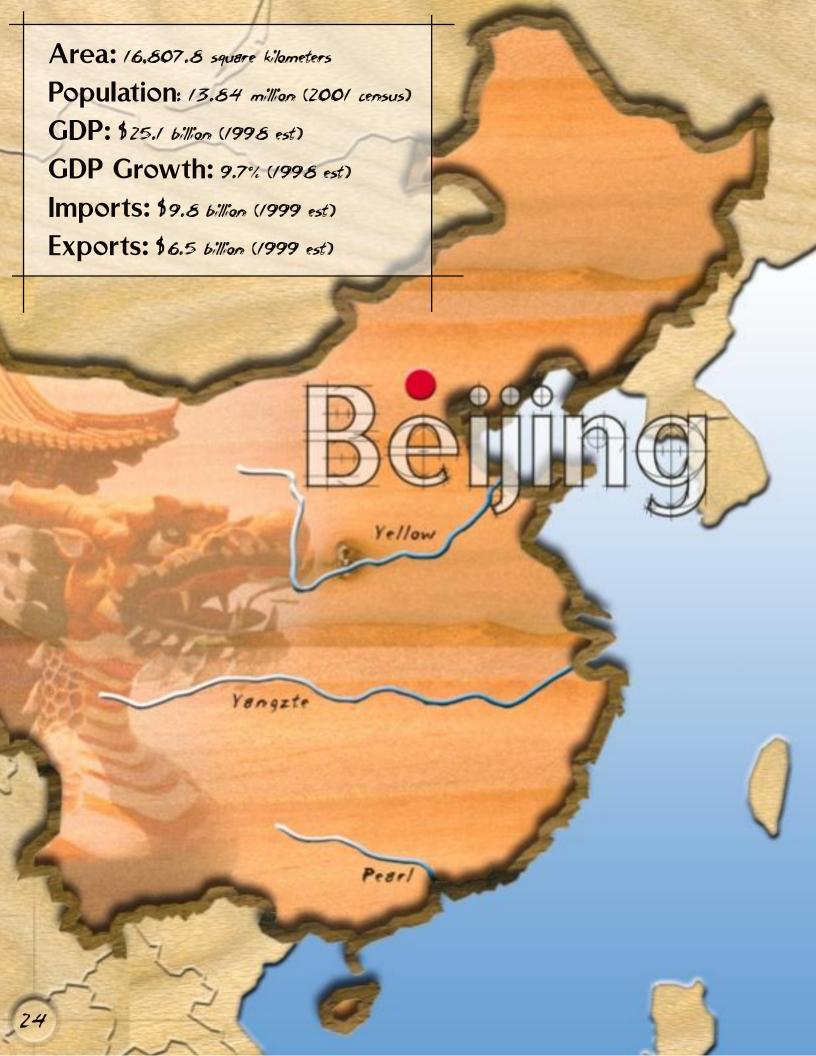
# Shanghai

Shanghai has recently emerged from a property market slump caused by overbuilding in the 1990s. Property vacancy rates are falling, prices are rising, and demand is growing. A number of property developers have major urban development projects in progress. The construction of Asia's largest exhibition center, the Shanghai New International Expo Center, was completed in 2001 and development in that area is ongoing. Capital Land China Holdings has purchased property in the Xuhui District, where it is building an 850-unit apartment complex. A new garden city planned to house a half-million residents is being built in the Songjiang satellite district. The Shanghai Urban Plan Research Institute is constructing Western-style homes and education facilities the area north of the Yangpu Bridge as part of the city's riverfront development project. The Shanghai municipal government is renovating roofs of existing multi-story buildings in urban areas throughout Shanghai.



These and many other projects provide opportunities for timber materials exporters into the China market. Construction projects, especially long-term ones, create a long-term demand for building materials. These projects also produce stable employment for engineers, architects, builders and their support staff. Stable employment provides more disposable income, which encourages spending and energizes the economy. As a result, a new generation of middle class Chinese consumers is emerging. This generation will spend more and save less than their parents did. They are hungry for all the comforts and status symbols of a modern lifestyle: clothes, cell phones, refrigerators, cars, and most of all, Western-style homes.

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#### Beijing

#### Beijing in Review

Beijing has been the capital of China on and off for the last 3,000 years. An estimated one-quarter of the city's population is employed in an administrative capacity by the government. Beijing's extraordinary history gives it a certain grandeur, as do its wide boulevards, beautifully landscaped areas and busy streets. With 8 million bicycle owners, Beijing is also known as the "Bicycle Kingdom." The legion of cyclists flowing along the streets and filling parking lots is an incredible sight.



Beijing is traditionally an affluent consumer city, with overtones of heavy industry. Statistics show that there are tens of thousands of high-income earners with an annual pay beginning at \$12,000 and higher. China's average annual salary of \$900 pales in comparison. Ninety-five

percent of this high-income bracket lives in the north and east areas of the city and are mainly from the financial, insurance, high-tech, accounting, film and television industries. Modern conveniences are important to Beijing residents — 3.3 million people have cell phones, 1.58 million own automobiles, and 2.8 million own computers and use the Internet.

"Beijing, the capital of the People's Republic of China, is the administrative nerve center of China, but it also possesses a solid manufacturing base and a growing high-technology sector."



"The 2008
Olympic Games has
thrust Beijing into the
global spotlight while
sparking a construction
and renovation boom
throughout the city."

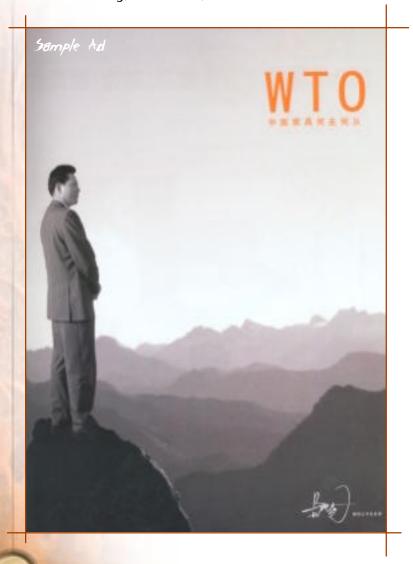


### Beijing

The people of Beijing are leading more comfortable lives and enjoying more freedom — thanks to a wider variety of business opportunities, better jobs and improved living conditions. As the Chinese become richer and busier, they're looking for what the rest of the world wants — nice homes, fast food, Western clothing and jewelry, cell phones, computers, and other modern luxuries not financially available to them in the past. Prior to the current economic boom in China, people spent most of their income on food, household appliances and education. Increased disposable income has encouraged more spending on housing and cars since 2000. A new generation of consumers in Beijing



buys apartments that are larger than the houses they grew up in, with interior design embellishments, such as crown molding and hardwood floors, once considered unnecessary and extravagant. To expand domestic demand and continue economic growth, the Ministry of Finance has introduced tax reform policies that reduce fees on housing, retail items, and income.



The number of foreign-invested enterprises is increasing in Beijing. More than 100 banks, including Mitsubishi and Citibank, have established a presence in Beijing and several have set up full branches, and personal loans and home mortgages are on the rise. Starbucks Coffee has made a big push into the Beijing market. Wal-Mart announced in 2001 that it plans to open five stores in Beijing. In 1999, French carmaker Renault announced that an assembly plant for its Scenic car in Beijing would begin operation prior to 2008. Other companies with a presence in Beijing include Xerox, AT&T, IBM, Bayer, Daewoo, Ericsson, Cadbury, Schweppes, Nokia, JVC, and Mitsubishi-Stone.

China's entry into the World Trade Organization and its successful bid to host the 2008 Olympic Games is having a positive effect on Beijing. In preparation for the 50th anniversary of the founding of the People's Republic of China in October 1999, there was a frenzy of activity aimed at beautifying the capital and widening its major thoroughfares. That rate of development has continued to increase as construction and renovation began on 19



Olympic venues, an Olympic Park, the city's infrastructure, and new environmental facilities. The real estate market is set to benefit significantly as both residential and commercial properties are developed. Employment rates are also steadily improving as staff members are hired to help prepare for and run the games; an increase from the current 100 employees to nearly 4,000 is expected.

Beijing has five main highways, an extensive subway system, and an international airport with over 30 Shanghai-Beijing flights daily. Beijing is landlocked and has no port, but good transport links with neighboring Tianjin gives it access to ocean shipping routes. A new logistics base, Beijing Logistics Port, is under construction in eastern Beijing's Shibalidian District near the Beijing-Tianjin-Tanguu Expressway. This base is expected to be operational in 2006 and will help keep China current in investment and economic developments. Seen as a future international, regional and urban logistics hub, it has been selected as one of the logistics bases for the 2008 Olympics.



Environmental awareness is on the rise in Beijing, promoting a national movement toward new protection and conservative measures for air, water and soil. Dozens of Beijing enterprises responsible for polluting the city have been moved out of the downtown area. Purifying equipment has been installed and new air-pollution measures have been instituted. New cars have to be fitted with fuel injection systems and catalytic converters, and strict emission standards have been issued. Natural gas, a cleaner option than coal-burning stoves, is now available to 70 percent of Beijing homes. To conserve water, the government plans to reduce the area of agricultural land planted with rice.

In both 2000 and 2001, Beijing was battered by severe spring sandstorms, attributed to the spreading deforestation in northern China and the widespread conversion of grasslands into farms since the early 1980s. Logging in China was banned in 1998 in 18 provinces and, in an effort to increase forest coverage and reverse deforestation, the State Forestry Administration in Beijing in 2001 began the implementation of a \$12 billion program that contracts with farmers to plant grass and trees in Beijing and Tianjin. The government

sees this program as an opportunity to provide relief to farmers, improve the environment, and promote the development of a nursery stock industry, thus creating a demand for seedlings.



Russia is responsible for 50 percent of Beijing's wood imports, but that country's supply is being depleted at an alarming rate and China is looking to other countries for wood. Extensive research is being done in the Boreal Forest, located in the biome areas encompassing the globe's northern hemisphere just below the Artic Circle. The Boreal, which plays a vital role in regulating the earth's climate, has attracted international attention due to the alarming reduction attributed to the threat posed by logging, mining, road building, and hydroelectric development. As a result, limits on domestic production in China, combined with growing demand, have led to a jump in timber imports.

# "Intense environmental concerns have focused on protecting this delicate region that precludes the continuation of timber harvesting."

The China Timber Distribution Association in Beijing is exploring import alternatives, as well as implementing regulations, organizing exhibitions, promoting trade and cooperative programs with foreign business. The Beijing National Timber Exchange (BNTE), with the cooperation of the National Timber Exchange, is building a national clearinghouse in Beijing for wood products, the first of its kind in China. When completed, the Timber Exchange will consist of a 2,000-square-meter main showroom surrounded by smaller buildings with space for vendors, offices, apartments and a hotel. A significant foreign presence is expected with a product mix that includes furniture, interior wood and structural wood.

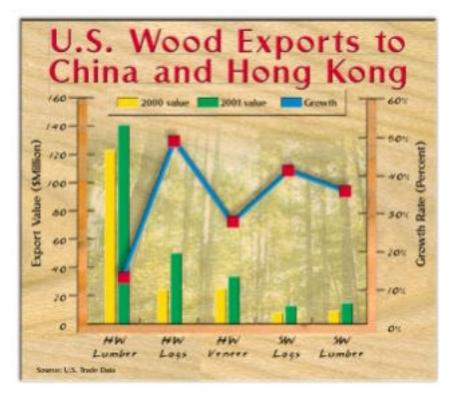




=Boreal Forest

"Increased living standards along with government policy changes toward free market enterprise are influencing home ownership. China's huge volume needs will provide new opportunities for Florida wood products." — Daniel P. Sleep. Senior Operations Manager and Project Leader for the China Timber Mission. Florida Department of Agriculture and Consumer Services





During each meeting with the Chinese timber industry, the Florida trade delegation promoted the strength and versatility of southern pine for a variety of interior and exterior applications. To familiarize the Chinese market with southern pine, plans are under way to ship a container load of finished products and wood samples to Guangzhou and Shangahi. These samples will educate the Chinese on the uses and versatility of southern pine for millwork for doors, molding, flooring, windows, stairways, cabinets, and home construction material. The same opportunity will be extended to hardwood producers to provide a container load of samples using red oak and cypress.

illions of dollars in fast growing, abundant Florida timber can be exported to China in the near future. There is no substitute for good working relationships with Chinese buyers. These relationships are established through face to face quality interactions. With the first step of conducting meetings and compiling research completed in May 2002, the Florida trade delegation is planning the next steps to attend trade shows and deliver sample shipments. To further strengthen the relationships, Chinese business people and government officials have been issued an open invitation to visit Florida timber facilities.



Developing longstanding working relationships with Chinese importers will require maintaining commitments even when their markets are weak. A scattered, "in-and-out" approach may lead to a few unsustained sales. It is far better to gauge competitiveness in the market early, understand the requirements of key importers, and develop long-term relationships that help solve supply and quality concerns. Being reliable means sacrificing short-term gains for long-term market development strategies.

Marketers know that Chinese consumers prefer imported products to local ones because they perceive the quality to be better. Brands using English words and Roman lettering create the impression of sophistication and quality that consumers associate with imports. This is especially appealing to the affluent new generation of Chinese consumers, many of whom were educated in Europe, Canada and the United States.

#### FROM NATURE TO NATURE

Modern life forces us to tive at a pace and adopt attitudes and habits that are separating us from our prigins, and risk severing our combact with nature. To create a habital that can keep us firmly rusted to our past, at least within our pain homes, we must get closer to nature, to reminders of our past such as severe case.



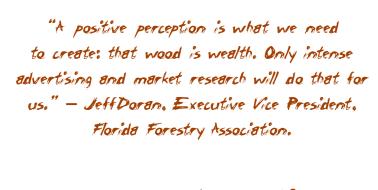
Most companies in China use the local language for explanation, reserving English for the main graphic or central message, whether in printed or broadcast form. Mandarin is the national language of China, but many other dialects are still spoken, such as Cantonese, commonly used in southern China. The key is to find a phrase that is concise, yet descriptive enough, to be widely understood. Approximately 90 percent of mid-sized retail companies in the Asia-Pacific region are using English to market products.

As part of a campaign to assist U.S. entrepreneurs exporting citrus into mainland China, the Florida Department of Agriculture and Consumer Services used a Mandarin Chinese version of the "Fresh from

Florida" logo and produced pointof-purchase displays, ads and
billboards. The Florida Forestry
Association also added Mandarin
Chinese to its "Florida Forests
Forever" logo. The logo was
featured in presentations and
reports during the trade mission as
part of a foreign market strategy
integral to the association's overall
business plan for marketing Florida
wood products in China.







Hong Kong is a free port with no duties or tariffs and has a wide-ranging network of agents and distributors. Approximately 40 percent of China's foreign trade takes place in Hong Kong. A well-managed market penetration program with a moderate investment in market development is all that is initially required. Companies entering this market should be aware that the Hong Kong business climate is fast-paced,

competitive and price-sensitive. Decisions are made quickly and goods entering the ports in Hong Kong are shipped out rapidly to companies throughout mainland China. It is imperative that companies respond to inquiries immediately or risk losing the market to faster-moving suppliers.



Many excellent agents and distributors for China are located in Hong Kong, although, given China's size and diversity, it is necessary to work with different agents for specific regions of China. Hong Kong companies are eager to talk to potential exporters and have a strong interest in representing good quality, competitively priced U.S. products from companies committed to the China market. Commitment to the market includes visiting port facilities, quoting in metric, providing Chinese-language material, responding quickly to inquiries, meeting relevant standards, and visiting the market to build upon the relationship.

#### Dongguam

There are more than 13,500 small manufacturers and assemblers in Dongguan, of which 2,000 are furniture manufacturers. Wood used to produce furniture is purchased through buying agents in Hong Kong and then sent to Dongguan. A solid relationship with a Hong Kong agent is crucial, and includes sending samples and support materials for use in promoting Florida woods to manufacturers.



Most timber is transported by cargo ship and arrives at the Dongguan International Container Port, but some shipments also travel via railway or highway. The Dongguan Xingye Timber and Plywood Market, which is supported by the Chinese government, receives the majority of the timber shipments that arrive in Dongguan. The market is divided into the following sections: stick-boards, domestic boards, imported square timber, furniture materials, and decorative materials and hardware. Brokers, manufacturers and distributors lease space in the market, and materials move in and out quickly.

Meeting with local government officials and business people in Dongguan and establishing working relationships is essential. The Chinese do business with people they know and trust, so it is important to invest time and money getting to know them and their business customs. Dongguan furniture industry experts recommend that Americans interested in selling wood in China should first visit China, set up an office or hire an agent in Hong Kong, then lease warehouse space in Dongguan and keep it well stocked so that orders can be filled quickly. Advertising and education are also extremely important in order to familiarize Chinese manufacturers and consumers with the uses, versatility, beauty, and cost effectiveness of American woods.

#### Guangzhou

Guangzhou, a funnel for commerce, is the richest and busiest port in China. The port area — comprised of Guangzhou, Huangpu and Shihang — can handle thousands of deep-water transit vessels, making it the fifth-largest container port area in China. Plans are under way to continue



development at the port, including a second phase of work on its sea channel. Improvements will increase the port's container transportation capacity and break its record of over 100 million tons of cargo.

The Chinese government operates a number of lumber facilities in Guangzhou, which lease plots to individual import and export businesses that operate around the clock.

Brokers from Hong Kong, Dongguan, Shanghai, Beijing and other cities come here to buy logs for shipment to major industrial centers throughout China. Most of the lumber received here comes from Indonesia and Africa, but this supply is predicted to become scarce. That gives Florida an incredible opportunity to enter the Chinese timber market and become a reliable supplier.



Florida companies must invest time to build relationships in Guangzhou before making deals, remaining patient in the face of a slow-moving bureaucratic system based on special economic zoning. This system is expected to speed up as reforms in economic, legal, administrative and trade practices take place upon China's entry into the World Trade Organization in 2004. A company's success is based on carefully developing a marketing plan, selecting an agent or distributor, fine tuning trade servicing abilities, and, most importantly, visiting China to see business conducted first hand.

#### Shamghai

Shanghai is one of China's busiest ports and is being expanded to more efficiently move cargo in and out of the country. To accomplish this, a special Export Processing Zone was established in 2000 near Pudong Airport. Advantages offered to businesses with offices here include tax and customs incentives, and easy access to roads, airports and railways. The development of a successful export strategy for doing business in Shanghai must include a thorough knowledge of the mechanics of shipping, which includes shipping procedures, documents required, and methods.

Shanghai's government-owned-and-operated facility, the Fu Ren Special Market for Valued Timber, leases space to over 100 timber merchants and has become one of the most influential imported timber trading centers in eastern China. With over 1,700 employees, the Brilliant Timber Company is one of China's biggest



wood manufacturing joint ventures between government and private business. Logs and timber brokered in these two major markets comes from the United States, New Guinea, Indonesia, Malaysia, Russia, Europe, Africa, Southeast Asia and Australia. Products are sold throughout China and are exported to the United States, Japan, Australia, Korea, Israel, Italy and Mexico.

Quantities of American pine, walnut, maple and white oak are beginning to appear on the Chinese market, but prices are not yet competitive. Since timber dealers in

Shanghai are not very familiar with American wood grade and use applications, marketing and education are the keys to success in this trend-setting metropolitan city. The Florida trade delegation discovered that representatives from both Fu Ren and Brilliant use samples of finished, graded lumber to help market American wood to buyers, which highlights the value of sending samples to prospective customers in China.



Beijing

The 2008 Olympics, recently awarded to Beijing, will create opportunities for foreign companies to construct roads, buildings and telecommunications infrastructure, as well as sell other services specifically for the Olympic venues. The Chinese government has allocated about \$30 billion (U.S.) for urban railways, expressways and environmental projects. Development continues to increase as construction and renovation begins on 19 Olympic venues, an Olympic Park, the city's infrastructure, and new environmental facilities. The real estate market will expand significantly as residential and commercial properties are developed, representing increased opportunities for Florida wood suppliers.

Officials from the China Timber Distribution Association described the Beijingese as intelligent, well traveled, trendy and wealthy. Beijing is considered the "Paris" of China, a city where fashion trends begin and Western style is admired and emulated. It was suggested that promotions, ads and news stories (after being screened and approved by the Chinese government) must focus on fashionable design trends for Florida woods. Another suggestion involved holding instructional seminars with Chinese real estate agents, architects, and government officials on the uses for Florida woods, as well as information on U.S. building code standards. Beijing is interested in working closely with Florida to establish a firm relationship between Florida's timber industry and China's industry and government.



In an effort to increase forest coverage and reverse the effects of deforestation, logging in 18 provinces in China was banned in 1998. In 2001 the State Forestry Administration in Beijing implemented a program that contracts farmers to plant grass and trees in Beijing and Tianjin. The government sees this program as an opportunity to provide relief to the farmers, improve the environment, and develop a nursery stock industry.

The increased demand for seedlings gives Florida tree nurseries an excellent opportunity to aid the Chinese in their reforestation efforts. The trade delegation met with government officials from the Beijing Academy of Agricultural and Forestry Sciences to discuss Florida's timber management resources and how Florida can assist with the maintenance and expansion of China's forests. The Chinese expressed great interest in tree seeds, seedlings, species, growth rate, and wood quality. Plans to ship samples of Florida pine seedlings for test planting in northern China's Boreal Forest areas are being discussed.

#### Recommendations

A genuine commitment to exporting begins with a long-term approach toward Chinese markets. This means investing time, money, materials and personnel.

- Visit China and meet with government officials and business people to establish working relationships.
- Invite Chinese government officials and business people to visit American facilities.
- Conduct product market research in China and develop a marketing plan.
- Fine tune trade servicing abilities to China (produce, market, ship, and sell overseas).
- Produce marketing materials in Chinese and English.
- Hire a Chinese broker and provide samples and bilingual marketing materials.
- Rent warehouse space in China and stock it.
- · Participate in Chinese trade shows.
- · Conduct instructional seminars in China.
- · Advertise in the Chinese media.

The international export market can provide greater income, new jobs, and increased profitability for Florida wood producers. A stronger forest products industry will lead to new investments in forest management, thus assuring a continuous supply of wood and fiber for Florida and its Chinese customers.





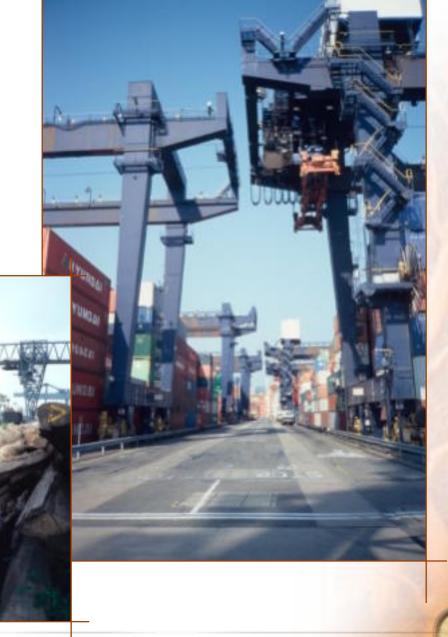
hina is a world-class producer of consumer goods, with the majority of its products shipped to the United States. The sheer volume of China's exports requires a sophisticated, effective and efficient network of distribution channels. China's port facilities are continually being upgraded. Likewise, there is a major emphasis to improve key overland routes.

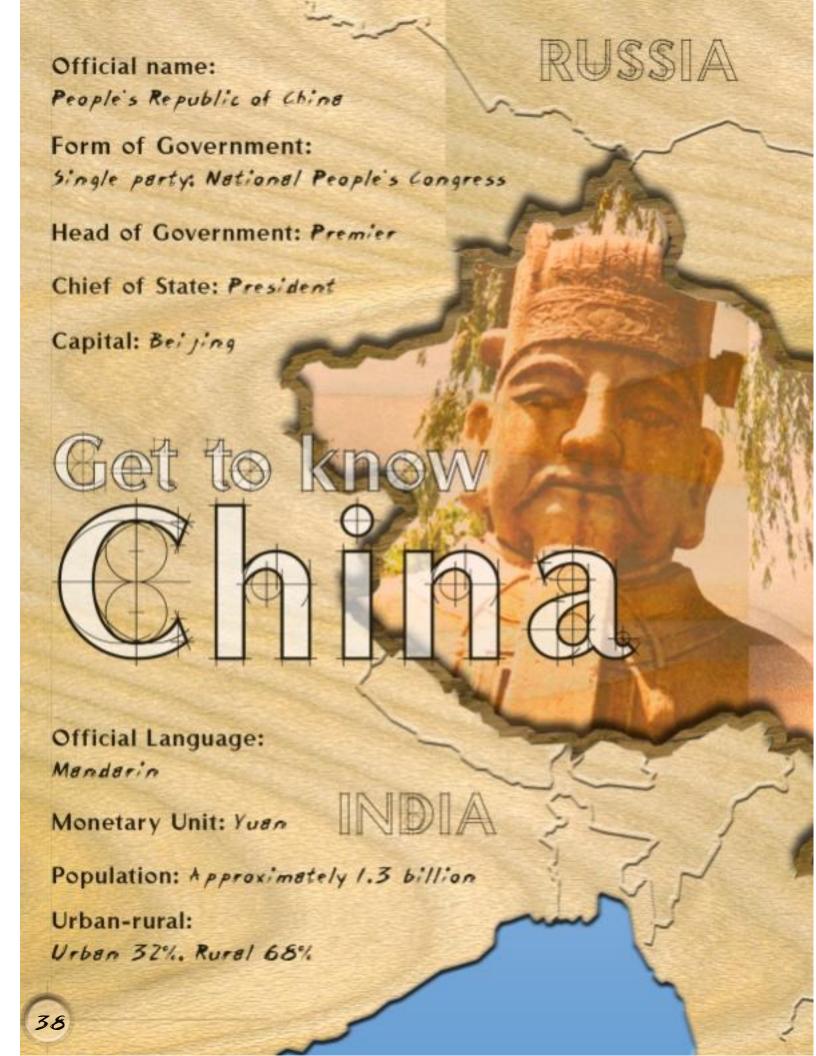
The nation is keenly aware that as a member of the World Trade Organization there will be greater pressures to become a two-way trading partner – importing as well as exporting. Efficient distribution of imported goods will be essential to supplying China's enormous and widely spread population.

Currently, the seaboard of China is well equipped to handle increased trade, however, the interior remains cumbersome in the receipt of goods flowing from Chinese ports. Shipments via rail and rivers are currently the primary means for supplying cities throughout the mainland. It is anticipated that by the year

2006, a network of highways will help ease the movement of goods into the interiors of mainland China, such as the heavily populated city of Chongqing.

The primary sea ports in China are Dalian, Tianjin, and Qingdao (north), Shanghai (east), and Hong Kong (south). Guangzhou is a major port of entry on the Pearl River, a short distance from Hong Kong. Hundreds of millions of dollars are currently being spent upgrading and expanding the port in Shanghai to establish it as the key entry point into mainland China.







## Geography

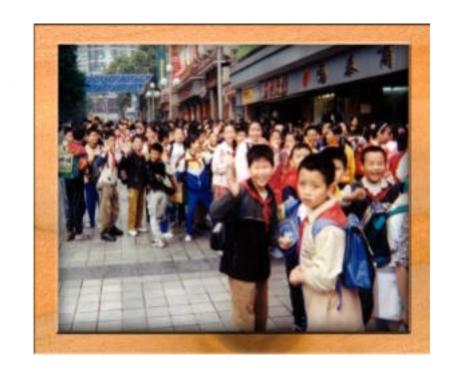
The People's Republic of China is the largest of all Asian countries. It stretches for 3,100 miles from east to west, 3,400 miles from north to south, and covers an area of about 3.7 million square miles.

Fourteen countries directly border China, including Mongolia to the north; Russia and North Korea to the northeast; Vietnam, Laos and India to the south; Pakistan to the southwest; and Afghanistan to the west. To China's east lie the Yellow Sea and the East China Sea; to the southeast lies the South China Sea.

#### Resources

China has rich overall energy potential, but most remains undeveloped. The nation is well endowed with mineral resources; the most important is coal which provides about 70 percent of its energy fuel. China's onshore oil resources are located in the northeast. Iron ore is found in most provinces.

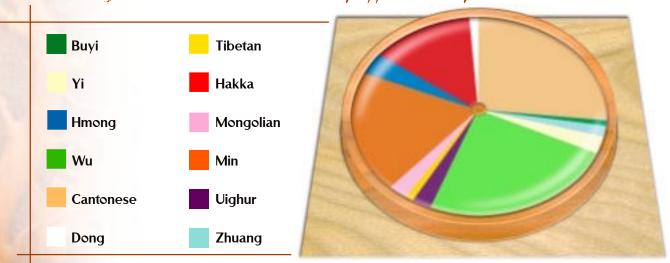
In view of China's extensive river network and mountainous terrain, there is great potential to produce hydroelectric power. Most of the total hydroelectric capacity is in the southwest.



### Population

The single most notable characteristic of China is the size of its population — approximately 1.3 billion people. More than one-fifth of mankind is of Chinese nationality. China has a myriad of cultural and linguistic differences.

Other Chinese languages spoken by at least I million persons domestically, excluding Mandarin which is used by approximately I.I billion Chinese.



The population is unevenly distributed and density varies. The greatest contrast occurs between the eastern half of China and the lands to the west and northwest. Exceptionally high population densities occur in the Yangtze River Delta, the Pearl River Delta, and on the Ch'eng-tu Plain of the western Szechwan Basin. In contrast, the isolated, extensive western and frontier regions, which are much larger than any European nation, are sparsely populated.

In 1979, with the population approaching 1 billion, the Chinese government implemented a one-child-perfamily policy. Today, the population growth rate is low for a developing country, although the huge size of its population still results in a large annual net growth. In the last two decades, even with its one-child policy, China's population has grown more than the current population of the entire United States.

#### Government

China has been under a Communist government since 1949 and ranks among the most influential countries in the world. Beijing, the capital of the People's Republic, is also the cultural, economic and communications center of the nation.

China has 33 administrative units directly under the central government; these consist of 23 provinces, five autonomous regions, four municipalities (Chongqing, Beijing, Shanghai and Tientsin), and two special administrative regions (Hong Kong and Macau). The island province of Taiwan has been under separate government since 1949.

## Government's role in the economy

The Communist government plays a dominant role in the economy. The state solely owns firms that produce more than 60 percent of the gross value of industrial output. In other sectors, the majority of businesses are joint-ventures with private partners.

There are various types of economic activity in China, including those stipulated by mandatory planning and those governed by market forces. The latter generally involve small-scale or highly perishable items that move within local market areas.

The government sets prices for key commodities, determines the level and general distribution of investment funds and prescribes production for major enterprises. It also allocates energy resources, sets





employment and wage levels, runs wholesale and retail networks and controls financial and banking systems.

#### Economy

Despite China's immense size, rich natural resources and huge population, its role in the world economy has historically been rather small. Since the late 1970s, however, when China increased its interaction with the international community, its role in world trade and the international economy has steadily grown. During the last three decades China's rate of foreign trade has grown faster than its gross domestic product (GDP).

During this same period, the nation's entire economic system has slowly moved away from the Soviet-type paradigm. Agriculture has been de-collectivized; the small non-agricultural private sector has grown rapidly. Government priorities have shifted toward light, rather than heavy, industry.

China is the world's largest grower of rice and is among the principal producers of wheat, corn, tobacco, soybeans, peanuts, and cotton. The country is also one of the world's largest suppliers of many industrial and mineral

products, including cotton cloth, tungsten and antimony. Cotton yarn, coal, and crude oil are also major products. Its mineral resources are probably among the richest in the world, but are only partially developed.

Key obstacles continue to constrain development and economic growth. Present energy supplies provide less than 80 percent of industrial capacity. Transportation systems are not adequate to move critical supplies. Communication systems do not currently meet the needs of the complex and massive country. Although

China has acquired highly sophisticated production facilities, most of its industrial output still comes from antiquated and ill-equipped factories.

#### Economic reform

The basic thrusts of economic reform have been toward integrating China into the international community. Enterprises are assuming responsibility for their profits and losses, effectively reducing the state's role in business operations. The state has also encouraged a private business sector to emerge, and allows it to compete with state-owned entities.





China's financial institutions are owned by the state. The People's Bank is responsible for foreign trade and other overseas transactions (including remittances by overseas Chinese), but these functions are exercised through the Bank of China, which maintains branch offices in a number of European and Asian countries.

Other important financial institutions include the People's Construction Bank of China, the Industrial and Commercial Bank of China, the Agricultural Bank of China, and the China Investment Bank. A number of foreign banks maintain offices in China's larger cities.

China's banks are currently undergoing major and dramatic reforms. These reforms have increased their role in the overall economy. Historically, virtually all investment capital was provided on a "grant basis" and based on the state plan. Policy has now shifted toward loans. Businesses and individuals can obtain loans outside of the state plan, which provides a major source of financing for new firms and modernization of older enterprises. Foreign capital is another important resource for economic development.



## Industry

Overall industrial output has grown more than 10 percent per year, and China's industrial work force probably exceeds the combined total for all other developing countries. Industry has surpassed all other sectors in economic growth and modernization.

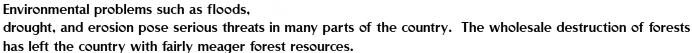
Major industry is cramped into a few coastal regions. Shanghai alone produces almost 10 percent of China's industrial gross value output, with the east coast accounting for nearly 60 percent.

The metallurgical and machine-building industries have received highest priority and now account for about one-third of the total gross value of industrial output. In addition, a great deal of focus has been placed on the chemical industry to expand the output of fertilizers, plastics, and synthetic fibers. China is among the world's leading producers of nitrogenous fertilizers.

Among consumer goods the main emphasis is on textiles and clothing. These products are vitally important to China's export trade. Textiles, a rapidly growing segment, accounts for about 15 percent of the gross industrial output.

## Agriculture

Only about 10 percent of China's total land is suitable for cultivation. Of this, less than half is irrigated. Soil quality varies.



THE REAL PROPERTY.

Western China has little agricultural significance except for areas of oasis farming and cattle raising. Rice, China's most important crop, is dominant in the southern provinces, many of which yield two harvests a year. In the north, wheat is the largest crop. Tea comes mainly from the hilly areas of the southeast. Cotton is grown extensively in the central provinces. Tobacco is grown in the central regions and parts of the south. Other important crops are potatoes, sugar beets, and oilseeds.

China lacks an abundance of high-tech farm machinery and, for the most part, small-scale farmers depend on simple, non-mechanized production implements.

Animal husbandry is the nation's second most important agricultural sector. China is the world's leading producer of pigs, chickens and eggs, and it also has sizeable herds of sheep and cattle.

China has a long tradition of ocean and freshwater fishing. Aquaculture (pond raising) is important and has been emphasized for export.

## Transportation

All of China, except for certain areas in Tibet, is accessible by rail, road, water or air. The government has placed great emphasis on developing transportation, because it relates closely to the national economy and defense systems. Nevertheless, domestic transportation systems still constrain economic growth and the efficient movement of people and goods.

Railroads (primarily using steam locomotives) provide the major means for hauling freight, but capacity cannot meet demand. China is currently in an aggressive mode of improving its highway infrastructure.

Costs for water transportation are much lower than rail and highway. The development of inland water transportation is receiving considerable emphasis. There are more than 68,000 miles of navigable inland waterways in China, with many more used to transport timber and bamboo. The location of waterways is chiefly in the central and southern regions.

The Yangtze River is one of the most economically important rivers in the world. Together with its

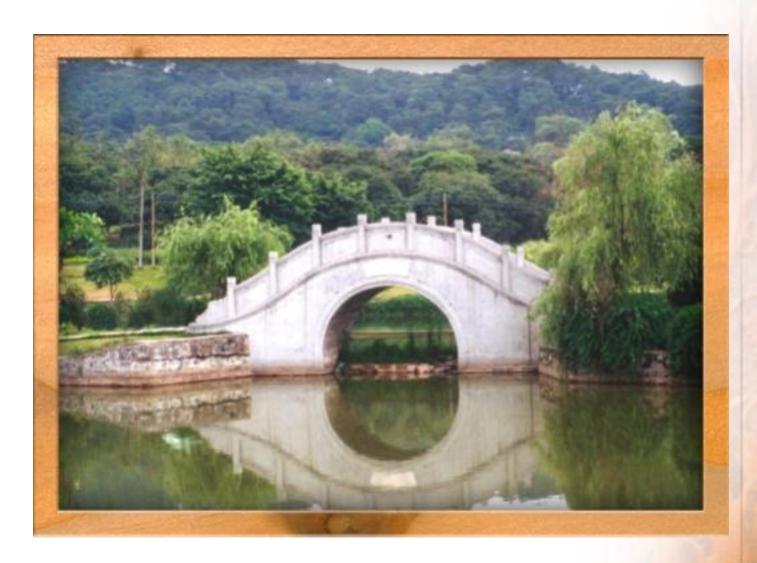
tributaries, it accounts for almost half of the nation's inland waterways, carrying about one-third of China's total river freight.

The Grand Canal, the world's longest artificial waterway, is the only major Chinese waterway running north and south. It passes through the basins of the Hai, Huang, Huai, Yangtze, and Ch'ien-t'ang rivers on its 1,100-mile course from Beijing to Hangzhou.

Aviation is well suited to China because of its extensive territory and varied terrain. Chinese civil aviation has two major categories: air transport, which mainly handles passengers, cargo, and mail; and special-purpose aviation, which mainly serves industrial and agricultural production, national defense, and scientific research. Many of China's airports are recently constructed or have received major renovations.

#### Port facilities and shipping

China's 8,700-mile-long coastline has approximately 100 bays including 20 deepwater harbors. Coastal shipping is divided into two principal navigation zones: the northern and southern marine districts. The northern district extends north from Amoy to the North Korean border, with Shanghai as its administrative center. The southern district extends south from Amoy to the Vietnamese border, with Canton as the administrative center.





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This project was made possible through the support and funding of the Florida Department of Agriculture and Consumer Services.

Charles H. Bronson. Commissioner



ransporting lumber and other forest products through general cargo terminals can be very expensive.

Transportation costs can be significantly reduced by using specialized forest products handling facilities at the ports of export and destination, which will result in lower freight rates and landed costs.

The proper packaging of products is also very important. Some shipments may be bound for ports with inadequate handling and storage facilities. Bundles should be clearly marked according to foreign specifications and include the company logo or color coding.

## Forest products shipping weights and volumes

#### **Important Shipping Parameters**

The cost of transportation is based on weight, volume, and stowage factor.

#### Weight

Wood products originate from living fibers and as such are more difficult to measure than other raw materials.



The weight of wood depends on species andmoisture content. It also depends to a lesser degree on rate of growth, growing site, proportion of sapwood to heartwood, thickness of the bark, and stowing methods. Bottom log usually are heavier than secondor third-cut logs.

To reduce damage through handling and season checking during transportation, veneer logs are often delivered with the bark on.



#### Fresh-cut roundwood can be grouped into four density categories:

_			
Ξ	1. Very heavy; 65 lbs/ft3 & up	=	1040 kg/m3 & up
	2. Heavy; 55-64 lbs/ft3	=	880-1024 kg/m3
	3. Moderate; 45-54 lbs/ft3	=	720-864 kg/m3
Г	4. Light; 35-44 lbs/ft3	=	560-704 kg/m3

The weight of any given species depends very strongly on moisture content.

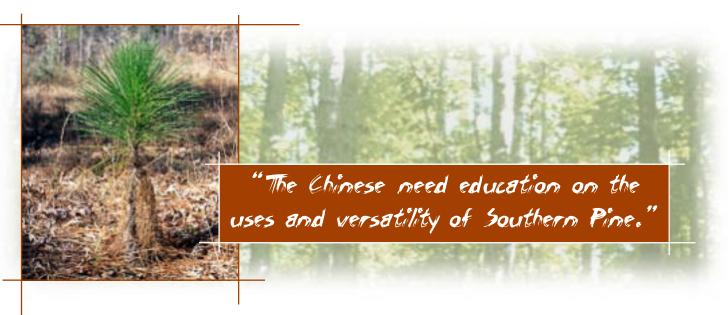
	Weight		Moisture Content			
Fresh-cut roundwood	65 lbs/ft3	=	(100%) Approx.	40-60%		
After 6 months approx	56 lbs/ft3	=	(86%) Approx.	30%		
"Shipping dry" lumber	52 lbs/ft3	=	(80%) Approx.	20%		
"Kiln-dry" lumber for the production of flooring	48 lbs/ft3	=	(74%) Approx.	10%		
The production of furniture parts	47 lbs/ft3	=	(72%) Approx.	8%		

<sup>\*</sup> With no allowances for shrinkage of the wood.

This means, for example, that a very heavy species of wood in a "fresh-cut" state would weigh 65 lbs/ft3 = 1040 kg/m3. The same log would weigh approx. 56 lbs/ft3 = 897 kg/m3 after 6 months if left in round state. For this species:

Shipping dry lumber would weigh approx.	52 lbs/ft3 = 833 kg/m3
Kiln-dry lumber for flooring would weigh approx.	48 lbs/ft3 = 769 kg/m3
Kiln-dry lumber for furniture parts would weigh app.	47 lbs/ft3 = 753 kg/m3

The specific gravity is 1.0 at 4\*C, at normal pressure. One cubic foot of water weighs 62.4 lbs.



Approximate shipping weight of logs and lumber of coniferous North American species.

North American Species	lb/ft3	kg/m3	kg/m3	t/cord	t/Mbf	t/Mbf
Fir Douglas(Oregon Pine)	47	750	600	1.810	2.980	1.430
Fir Balsam	39	625	500	1.350	2.500	1.200
Fir White	38	610	490	1.465	2.410	1.160
Fir Silver	40	640	510	1.540	2.540	1.210
Fir Grand	42	670	540	1.620	2.670	1.280
Hemlock Eastern	45	720	580	1.735	2.860	1.370
Hemlock Western	48	770	620	1.850	3.050	1.460
Larch Eastern	47	750	600	1.810	2.980	1.520
Larch Western	50	800	640	1.930	3.180	1.520
Pine Jack	44	700	560	1.700	2.800	1.340
Pine Pitch	50	800	640	1.930	<b>3.180</b>	1.520
Pine Ponderosa	42	670	510	1.620	2.670	1.210
Pine Red	44	700	560	1.700	2.800	1.340
Pine White Eastern	40	640	510	1.620	2.670	1.210
Pine White Western	42	670	540	1.620	2.670	1.280
Pine Sugar	42	670	540	1.620	2.670	1.280
Pine South. Yellow Longleaf	55	880	700	2./2 <b>0</b>	3.490	1.650
Pine South. Yellow Shortlesf	50	800	640	1.930	3./80	1.520
Pine South. Yellow Slash	58	930	750	2.240	3.680	1.770
Spruce Black	45	720	580	1.735	2.860	1.370
Spruce Engelmann	38	610	490	1.465	2.410	1.160
Spruce Red	42	670	540	1.620	2.670	1.280
Spruce Sitka	40	640	510	1.540	2.540	1.210
Spruce White	40	640	510	1.540	2.540	1.210
Cedar Red	37	590	413		2.350	0.990
Cedar White	32	510	351		2.030	0.850

**Note:** m3a = 35.31 ft3 of logs, Mbf a = 140 ft3/3.96 m3 of logs m3b = 35.31 ft3 of lumber, Mbf b = 83.33 ft3/2.36 m3 of lumber cord: 90 ft3 = 2.55 m3 solid wood (a)Roundwood (b)Lumber

Unit of n	reigh			Equivalents
Pounds	X	0.45359	=	kg
lbs	X	0.0004536	=	t (metric ton)
	X	0.0004464	=	tn (long ton)
	X	0.0005000	=	shtn (short ton)
Kilograms	X	2.2046	=	lbs
kg	X	0.001	=	t (metric ton)
	X	0.000984	=	tn (long ton)
	X	0.001102	=	shtn (short ton)
Ton metric	X	2204.622	=	lbs
t	X	1000	=	kg
	X	0.9842	=	tn
	X	1.1023	=	shtn
Ton long	X	2242	=	lbs
tn	X	1016.04	=	kg
	X	1.01604	=	t
	X	1.12	=	tn
Ton short	X	2000	=	lbs
shtn	X	907.184	=	kg
	X	0.907184	=	t
	X	0.892857	=	tn



Weight Metric Tons	Estimate Ft3	Volume M3	Assumed 16/ft3	Specific Weight kg/m3
1 loading ton of roundwood	40	1.132	55	883
1 loading ton of lumber	50	1.416	44	706
1 ton of plywood conif.	63	1.784	35	560
1 ton of plywood nonconif.	55	1.560	40	640
1 ton of plywood particleboard	55	1.560	40	640
1 ton of plywood hardboard	37	1.050	59	950
1 ton of plywood softboard	118	3.330	19	300

#### International container standards

Freight containers are a popular method of shipping lumber and wood products. These containers can be packed and sealed at the manufacturer and not reopened until the product reaches the final customer. During shipment, the products such as veneer logs, lumber, dimension stock, flooring, moldings, panel products, furniture, and veneer are protected from pilferage and the environment. These containers come in standard sizes and can be transported by ship, truck, and rail.

The majority of containers used today come in one of five lengths: 20ft, 40ft, 45ft, 48ft, or recently 53ft. Most containers are 8' wide and 8' 6" tall, although some containers, called high cube, are 9' 6" tall. In the table below, the average internal dimensions and capacity for each type of container are shown. These dimensions may very from one model to another, and carriers should be consulted well in advance of shipping for specifications, availability, and rates. Many carriers provide valuable assistance and information on loading and operating their equipment.

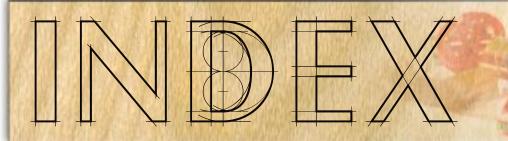
At present, the 48ft and 53ft containers, which have an outside width of 8' 6", are used only in domestic rail and truck transportation. This may change as new ocean vessels which are capable of handling the wider containers are developed.

Maximum cargo weights are limited by carriers to comply with restrictions on particular transport and handling equipment or limits enforced by government agencies to protect roads and bridges. Due to low product density or load limits, many loads do not utilize the maximum rated weight capacity of the container. If the container is shipped to the port by rail, or loads at the port, more cargo may be loaded. Some states provide overweight permits for highway travel.



Container type	Interior	dimensions		Capacity	
	Length	Height	Width	Volume	Weight
20 foot	19`4"	7`9"	7`8"	1186 ft3	41000lb
40 foot	39`6"	7`10"	7`8"	2387 ft3	58867lb
40 foot, high cube	39`6"	8`4"	7`8"	2548 ft3	60400lb
45 foot, high cube	44`6"	8`10"	7`8"	3050 ft3	64250lb
48 foot, high cube	47`6"	8`10"	8`2"	3450 ft3	56920lb
53 foot, high cube	52`6"	8`10"	8`2"	3830 ft3	56920lb
20 foot	589 cm	236 cm	234 cm	33.5 m3	18598kg
40 foot	1204 cm	239 cm	234 cm	67.6 m3	26702kg
40 foot, high cube	1204 cm	239 cm	234 cm	72.2 m3	27397kg
45 foot, high cube	1356 cm	269 cm	234 cm	86.4 m3	29144kg
48 foot, high cube	1448 cm	269 cm	249 cm	97.7 m3	26808kg
53 foot, high cube	1600 cm	269 cm	249 cm	109 m3	25819kg
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information provided by United States Department of Agriculture.



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# Thank You

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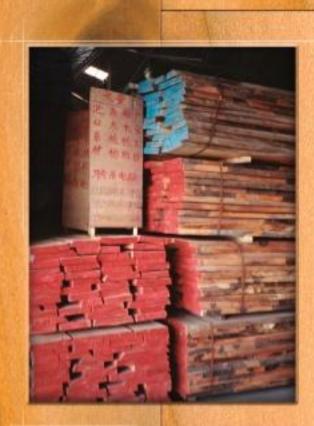
And a special thank you to:

Gov. Fang Maoming, Houjie Town, Dongguan, People's Republic of China

Mayor, Houjie Town, Dongguan, People's Republic of China

Mr. Chan Hoi Ping, Senior Director, Chamber of Commerce, Houjie Town, Dongguan, People's Republic of China

Mr. Guo De Qiao, Secretary General, Chamber of Commerce, Houjie Town, Dongguan, People's Republic of China



佛罗里法蘇州

里法森林

甲偶罗佛罗







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