Trends in the Global Forest Sector and Implications for Forest Certification

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TRENDS IN THE GLOBAL FOREST SECTOR AND IMPLICATIONS FOR FOREST CERTIFICATION

Summary

Throughout history, economies and civilizations have grown and developed through the exploitation of natural resources. Key among these are forest resources. Forests and the wood they provide have been and still are the dominant source of fuel and shelter for much of the world, and a keystone in many economies.

Historically, the wood products industry in North America has been self-reliant with respect to wood supplies and dominant in local markets. Today, however, a number of global trends are causing significant change in the forest sector and in wood products markets both within North America and globally. These trends and associated changes in the forest sector are likely to exert a strong influence on the forest certification movement.

It appears that a shift in forest-related industrial activity is underway, from regions long characterized by robust wood products industries, to regions with no history of significant forest products production. Coincidentally, wood-based industrial activity is shifting to areas where certification is virtually non-existent today, with the exception of fast-growing forest plantations, a reality that could stall or marginalize the forest certification movement.

Several strategies that could help to avoid or counter the likely negative impact of current global trends on forest certification include: refocusing of certification programs on forests of southeast Asia, the southern hemisphere, Russia and Eastern Europe; redoubling efforts to develop a sizeable market for certified products within North America; and mounting a proactive and strategic response to global plantation development.

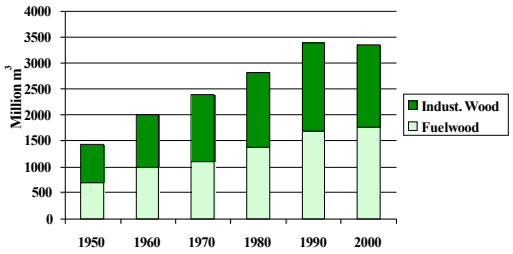
Global Forestry Sector Mega Trends

In 2000 the volume of wood harvested globally approximated 3.35 billion cubic meters, a figure slightly lower than in 1990. Examination of the components of the global wood harvest (Figure 1) shows that historically the harvest has been more or less equally divided between industrial wood – wood used for things like lumber, molding, millwork, panels, and paper – and fuelwood that is used primarily for heating and cooking. Over most of the 20th century and continuing through today, about 40 percent of all harvesting and 75 percent of the industrial wood harvest occurred within the developed countries (the U.S., Canada, and western and northern Europe), home to under 20 percent of the global population. In contrast, the developing countries have traditionally accounted for about 25 percent of the industrial wood harvest, but about 85 percent of the global fuelwood harvest.

Although the global wood harvest declined in the decade of the '90s, the harvest of fuelwood continued to rise during that period, indicating that the decline in total harvest from 1990 to 2000 was wholly attributable to a drop in the industrial wood harvest. This decline, in turn, was largely due to declining harvests in the Former USSR coupled with a global economic slowdown. Harvests are now on the rebound, with annual increases of

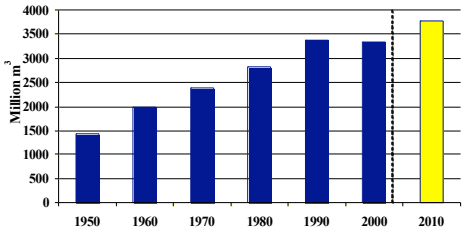
about 1.2 percent expected through 2010, bringing the global harvest to about 3.8 billion cubic meters by that date (Figure 2). A rise in the harvest of industrial wood is expected to account for most of this increase.

Figure 1
Global Wood Harvest, 1950 to 2000



Source: FAO (2001)

Figure 2
Global Wood Harvest, 1950 to 2000,
With Projection to 2010



Source: FAO (2001)

As industrial wood harvests resume a pattern of growth, it appears that the geographic location of harvest activity may be shifting. Current trends in a number of areas – globalization, third-world economic growth, and wood supply – suggest that future wood products production and consumption patterns will be driven to a much greater extent by developments in China and the Pacific Rim and the southern hemisphere than by industrial growth in the northern hemisphere.

A major factor that is driving change in wood products manufacturing is rapid emergence of new supplies of industrial wood. At least three factors are serving to increase the supply of industrial wood globally:

- investment in fast-growing tree plantations worldwide,
- the re-emergence of Russia's forest and wood products sector,
- increasing harvest activity in the world's tropical forests.

For the most part these new wood supplies are located outside of developed nations. For example, while some fast growing industrial wood plantations can be found in North America, including highly productive pine plantations in the U.S. South, the majority of tree plantations occur in Asia and the southern hemisphere, a reality that current trends in southern hemisphere investment will only accentuate.

These three factors and the resulting increase in the supply of industrial wood suggest that a period of unprecedented change may be underway within the global forest and wood products sector. Change is being fuelled by

- globalization.
- liberalization of China's economy.
- prolonged economic growth throughout much of the developing world.
- massive investment in tree plantations and "new" wood producing regions.
- increasing costs of industrial production in North America.

The implications are profound. Among these are the likelihood of a refocusing of forest sector investment to the new wood producing regions, and a marked shift of forest harvest activity away from regions that today account for the large majority of the world's certified forests.

Changing Realities

Increasing Global Competition

Globalization is changing the nature of manufacturing worldwide. In general, capital and jobs are now flowing to regions with low labor costs. This trend is accentuated by diffusion of state-of-the-art technologies to all corners of the globe and expansion of transportation networks within developing countries.

Increasing global competition is clearly impacting the forest and wood products sector. Several of the largest emerging global economies, most notably China and Russia, appear to have targeted this sector as a focus of employment and industrial growth. Other regions have moved aggressively to create plantations of fast-growing trees and to position themselves for future forest sector investment.

There is clear precedence for economic development based on the forest and wood products sector. It could be argued that the U.S., currently the world's largest economy, is a prime example and a relevant model for today's developing countries. Throughout U.S. history wood products have played a key role in the nation's economy, from the building of infrastructure such as railroads, bridges, and factories, to literally fueling the industrial age. Today wood is by far the number one industrial raw material used in the U.S., and tens of thousands of domestic companies rely on wood and wood products as a significant component of their businesses.

The Rapid Rise of China's Economy

After centuries of economic and technological stagnation, China now has the world's most rapidly growing economy. This achievement follows adoption of internal reforms and trade liberalization policies. It is increasingly apparent that industrial and economic growth is not haphazard, but rather the result of careful, targeted planning that is focused on development of labor-intensive industries.

With only modest forest resources of its own, and thus far only limited plantation development, China has markedly increased its imports of hardwood and softwood logs and lumber since the mid 1990s. Chinese exports of secondary wood products have risen similarly. With momentum provided by low labor rates and regulatory compliance costs, China's exports of wood household furniture to the U.S. have increased by more than 2,366 percent over the past decade. Similarly, from 1993 to 2003 the volume of wood moldings and wood flooring flowing from China to the U.S. increased 8,400 percent and 1,350 percent, respectively. A trend of increasing net exports of wood kitchen cabinet components from China to the U.S. is also becoming apparent.

Since 1998, gains of foreign competitors in the U.S. household furniture market, led by those of China, have reduced domestic hardwood lumber consumption on the part of the U.S. furniture industry by over 60 percent, and overall consumption of U.S.-produced hardwood lumber by 19 percent. A similar, though thus far less dramatic trend can be seen in paper markets.

Chinese goods are often manufactured from U.S. logs or lumber, with products, in turn, offered in North American markets at prices well below those of U.S. producers. This is made possible, in part, by the longstanding U.S. trade imbalance with China. Thousands of packed shipping containers arrive daily at U.S. ports, and most of these containers would return to China empty were it not for their use in conveying basic raw materials such as logs, lumber and wastepaper. In effect, the cost of the backhaul is almost free. Given this situation and other current cost advantages, further loss of U.S. market share to Chinese manufactured wood products is highly likely within the relatively near term.

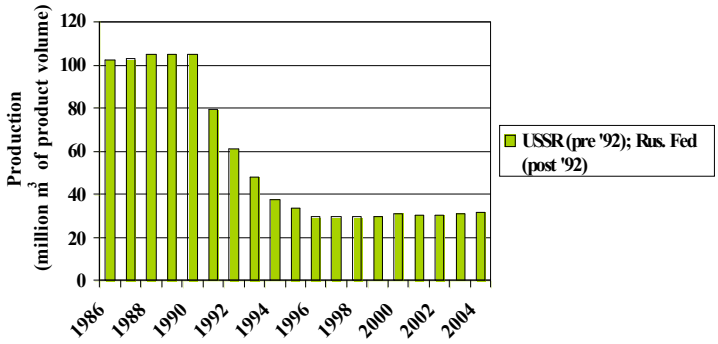
China is also becoming an influential consumer. As China assumes an increasing role as an exporter of products of all kinds, per capita income within China is rising. As a result, internal demand for a wide range of products, including demand for a number of types of wood and wood products, is growing rapidly. Although Chinese dwellings are seldom constructed principally of wood, it is common to use wood for moldings, doors, partitions, and furniture. Moreover, interest in wood framing as a method of construction is slowly gaining acceptance and momentum. Very rapid construction of new housing units is occurring within China, with the average size unit far larger now than it was only a few years ago. For instance, apartment units being built today provide approximately 20-24 square meters (215-260 square feet) per resident, still small by western standards, but up from 4 square meters per resident less than 25 years ago – a five to six-fold increase. The impact on China's wood products consumption is substantial.

The volume of logs imported by China in 2002 approximated 24.3 million cubic meters, 5.5 times the import volume of 1997; major suppliers were Russia, Malaysia, New Zealand, Papua New Guinea, and Gabon. Imports of lumber in 2002 (7.7 million cubic meters) were 4 times greater than in 1997, with Indonesia, the United States, Thailand, Russia, and Malaysia the leading suppliers. The upward trend of imports is expected to continue. The International Tropical Timber Organization (ITTO) projects that Chinese roundwood imports will increase and will be primarily large diameter logs. Softwood imports are expected to rise, but at a slower rate than hardwood imports. Consequently, the proportion of imports accounted for by tropical and temperate hardwoods is expected to increase relative to softwood imports. Lumber imports are expected to increase as well. A similar trend of importation, albeit on a smaller scale, can be expected for other countries of the Pacific Rim, including Vietnam where considerable investment in furniture and related industries is occurring. Within this environment, the United States is also expected to increase its net imports of both hardwoods and softwoods.

The Re-emergence of Russia

Russia's forest sector is beginning to recover from near total collapse following the breakup of the Soviet Union. With more than 50 percent of world softwood resources and hardwood forests that cover a slightly larger area than hardwood forests of the U.S., Russia has the potential to provide very large "new" supplies of wood and wood products to world markets. The Russian government has recently identified the potential for annual production of timber of 559 million cubic meters (a figure about 20 percent greater than the total annual U.S. timber harvest). In comparison to Russian harvest levels of recent years (165 million cubic meters in 2002) over two-thirds of the potential Russian harvest represents new supplies for future wood products manufacturing and export. Figure 3 illustrates the decline in Russian lumber production between 1986 and 2003; again, potential additions to global lumber supplies as the Russian forest and wood products sector re-emerges are quite large.

Figure 3
Lumber Production in the USSR and Russian Federation, 1986-2003



Source: FAOSTAT (2004)

Relative wood abundance in Russia, together with an improving investment climate there, is attracting a massive influx of new capital to the wood products industry of that country. For example, investments in the Russian forest industry (including logging, woodworking and pulp and paper) amounted to $540 million in 2002, and over 4 million cubic meters of new sawnwood production capacity is currently under development in western Russia from investments scheduled for 2002-2006. In addition, markets for Russian wood in China are growing rapidly, and large, well-capitalized processing facilities are under construction along the Russian/Chinese border. As in China, labor rates and costs of regulatory compliance are lower than in the U.S. In addition, wood costs are generally lower than in the U.S.

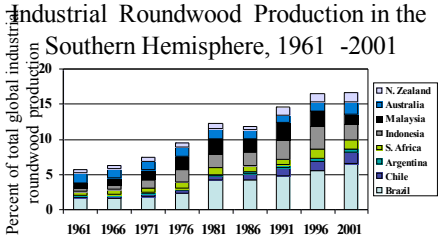
The Southern Hemisphere Becomes a Factor

China and Russia are not the only nations presenting a rising challenge to established firms and regions in the forest and wood products sector. Several other regions are currently building capacity in this sector. Included among these are the Pacific Rim (in addition to

China), Eastern Europe, and parts of the southern hemisphere, most notably Brazil and Chile.

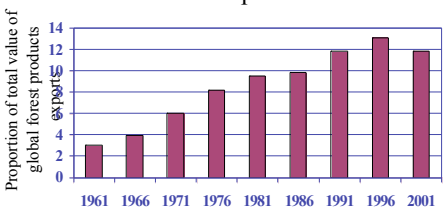
The portion of global industrial roundwood production accounted for by southern hemisphere countries has risen steadily in recent decades (Figure 4), with Brazil recording the greatest increase. Not surprisingly, the proportion of global forest products exports originating in the southern hemisphere has risen as well. It is worth noting that the proportion of exports of primary and secondary wood products has risen twice as fast as roundwood production, indicating an increasing trend toward domestic production of industrial wood products within southern hemisphere countries.

Figure 4
Trends in the Proportion of Global Industrial Roundwood Production in the Southern Hemisphere, 1961 -2001



Source: Whiteman, A. FAO. (2003)

Figure 5
Trends in the Proportion of Global Forest Products Exports from the Southern Hemisphere



Source: Whiteman, A. FAO. (2003)

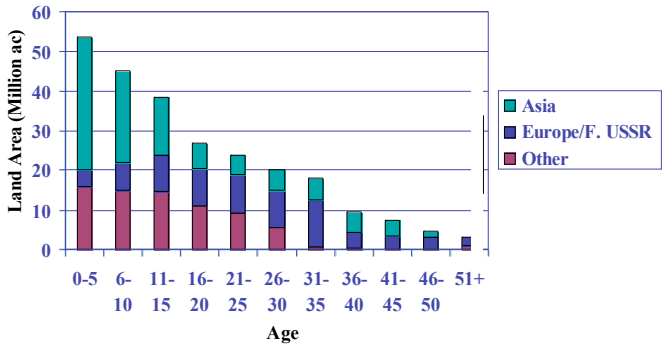
Wood, Wood and More Wood

The reemergence of Russia as a wood and wood products producer will add substantial volumes of wood to the global supply. Even greater volumes of new supply will arise from plantations of fast-growth trees.

In 2000, worldwide forest plantations covered an estimated 462 million acres, an area about the size of the timberland (forestland available for periodic harvest) estate in the United States. Slightly more than half of this plantation acreage (about 283 million acres) was dedicated to production of industrial wood, with most of the rest producing fuelwood. The current global plantation acreage is more than ten times the plantation area of 1980 and about five percent of the total forest area globally. This five percent accounted for about 35 percent of global roundwood production in 2000. Planting continues at a rate of about 11 million acres annually. It is likely that more than one half of the growing stock harvest will be plantation grown by 2050.

The current age of industrial wood plantations is generally very young, with as much as 135 million acres (48 percent) less than 20 years of age and 65 million (23 percent) less than 10 years (Figure 6). Given this age distribution and in view of the fact that rotation ages for plantation-grown trees are in the range of 6 to 35 years, the harvest volume coming from plantations will increase at a rapid rate over the next several decades, so much so that some are predicting a glut of plantation wood in Asian and world markets within the relatively near term.

Figure 6
World Industrial Forest Plantation Age Structure -1995



Source: Adapted from Brown and Ball, 2000.

Forest Certification

Implications of Global Trends

Today, a variety of systems for certifying responsible forest management are being promoted worldwide. Approximately 6.5 percent of global forests have been certified under one or more of these systems.

Ironically, the majority of forests that have been certified to date (i.e., those in the United States, Canada, and Western Europe) are located in those regions most likely to see a loss in their wood and wood products markets to producers in developing regions. Conversely, those regions most likely to be the focus of increasing harvest pressures (southeast Asia, Russia and Eastern Europe, and the southern hemisphere) currently have only miniscule areas of certified forests, and the bulk of these are plantations.

If history continues to repeat itself, it is highly likely that industrial wood product manufacturers will continue to find it advantageous to move closer to the location of the most available and lowest cost forest resource. The impact of that change on forest certification remains to be seen. Current trends suggest that currently certified forests in North America and Western Europe may become less important as a source of industrial wood, and regions that have not yet embraced certification may become a more important source of wood supply. It also appears likely that plantation forests will increase in area (as noted above) because of their high productivity compared to natural forests. The likelihood of plantations becoming a much more important source of supply is, perhaps, a positive trend vis-à-vis the certification movement since plantations represent the largest component of certified forests in developing countries.

Potential Strategies for Responding to Global Trends

The strategies developed to address global trends and potential impacts on the North American wood products industry and markets are vitally important to both the industry

and to the future of forest certification systems. Interestingly, growth of certification programs within North America could provide a means of enhancing the competitiveness of U.S. and Canadian firms. Conversely, without marked growth of certification programs outside of North America and Western Europe, the influence of certification on global forest management will likely decline. Several possible strategies for responding to global trends are:

- *Refocus forest certification initiatives on forests outside of North America and Western Europe*. Forest certification programs were conceived based on concern about ongoing deforestation in the tropical regions. Such programs need to refocus on the tropical forests and on forests of Asia, the southern hemisphere, Russia, and Eastern Europe.

- *Redouble efforts to develop a sizeable market for certified wood products within North America*. The existence of such a market would provide a strong incentive for wood products exporters targeting markets within North American and Western Europe to embrace certification. Coincidentally, a strong domestic market for certified wood could provide a competitive advantage to North American producers, at least in the near term. North American has a head start in quality forest management in general and on certification specifically, and wood products firms could use this as a strategic advantage in the near term, providing time for a transition to a global business model.

- *Mount a proactive and strategic response to global plantation development*. The growing role of plantations in providing wood and wood fiber must be recognized and actions taken to reap the maximum advantage of these developments. The wood-based industry of North America is beginning to respond. Recent actions by the Weyerhaeuser company to become involved in the production and marketing of wood from eucalyptus plantations and to develop global markets for a "new" wood – *Lyptus* – provides one example of proactive action on the part of industry. Certifiers need to stay on top of plantation developments and seek to be an active player in shaping plantation development.

The Bottom Line

Several important trends, or mega trends, presage a period of unprecedented change in the global forest and wood products sector. These trends can be summarized as:

1. Abundant labor and/or raw materials in developing countries are giving those regions a substantial competitive advantage in global wood products markets.
2. Significant capital investments in developing regions are supporting the development of the forest and wood products sector.
3. Currently, most certified forests occur in regions that aren't experiencing significant capital investments or industrial growth and that have relatively high labor and material costs.

Among the implications is the likelihood of a continued refocusing of forest sector investment to new wood producing regions and a marked shift of forest harvest and management activity away from regions that today account for the large majority of the world's certified forests. Developments suggest that if certification is to play a significant future role in shaping the nature of forest management worldwide, a refocusing of attention on forests of Russia, Eastern Europe, and the southern hemisphere and tropical forests will be needed.

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