

C I N T R A F O R

Working Paper 63

[Back to Publications List](#)

The Forest Sector in the Russian Far East: Status and Near-Term Development

Ekaterina Gataulina and Thomas R. Waggener. 1997

Executive Summary

Following implementation of Russian Federation political and economic reforms, the Russian Far East (RFE) and its forests became a focal point of international attention. The Forest Industry Complex (FIC) can be considered as one of the most interesting sectors of the region due to its importance for business, international trade, tourism and the environment.

This study reviews the current state of the FIC in the RFE region, recent trends of development, and the outlook for the near future.

Economic Development in the Russian Far East

- The RFE is located in Northeast Asia in close proximity to the major wood-deficit countries of the Pacific Rim (Japan, South Korea and China). With the availability of marine transportation, conditions are potentially favorable for greatly expanded RFE timber production and international timber trade, primarily with the Pacific Rim. However, remoteness and poor infrastructure continue to impede the development of markets and trade with the western part of Russia, the former republics of the USSR and Western Europe.
- A monsoon climate exists in the southern RFE, with a Siberian, or Continental, climate in the interior. Almost 75% of the RFE is permafrost, which results in a very low rate of growth on most RFE forests and to the slow recovery of disturbed areas.
- Four main vegetation zones are defined in the RFE (the first two zones have no commercial value for the FIC):

Arctic tundra grows as a thin belt in the far northern regions of Yakutia and Chukotka.

Tundra grows further south, forming a thin belt in Yakutia, covering most of Chukotka and northern Kamchatka, portions of Magadanskaya Oblast and northern Khabarovskiy Kray.

Taiga, the largest mass of boreal forest, forms the third zone that is the heart of the RFE. Further south, this forest gradually becomes more complex, although tundra can still be found along the mountain ranges. The forests of this zone provide a main base for the FIC.

Korean-pine-broad-leaved forests grow below the taiga zone in Primorskiy Kray and southern Khabarovskiy Kray. The conifer broad-leaved forests in these regions are called Ussuri taiga. This forest supports the majority of the RFE's endangered species. Ussuri taiga also is a productive source of timber.

- The RFE is a group of nine territories (sub-regions), which have equal political stature under the jurisdiction of Russia (except for the Republic of Yakutia, which has greater autonomy).
- The RFE, with an average population of 1.25 inhabitants per km², is one of the world's least populated areas. Population within the RFE is also unevenly distributed among its territories. The most populated areas are Primorskiy Kray, Sakhalinskaya Oblast and other southern sub-regions which enjoy a more favorable climate. The least populated sub-regions are those of the northern portions of the RFE region and the interior sub-region of Yakutia.

- The RFE has long been a labor-deficit region, where about 10% of total demand for labor is usually unmet. The government of the Russian Federation has stopped subsidies to the RFE regional population, and population has begun to decline with the most substantial drop in the Northern sub-regions of the RFE.
- Non-ferrous metals, marine resources, and timber are the major components of the economy of the RFE region. Although the RFE is rich in natural resources, it is also considered to be one of the least - developed regions in Russia.
- Previously, the RFE enjoyed cheaper (subsidized) transportation for the extracted natural resources that were in demand within the highly populated Western regions of Russia that provided the primary processing industries. National policies were to transport the natural resources rather than to construct processing capacities within the undeveloped areas. The RFE was, in turn, supplied with food products and most consumer goods from the other parts of Russia.
- Industrial production is concentrated in the south of the RFE, which is relatively diversified and self-sufficient. The northern areas have only isolated pockets of industrial (mining) activity with large areas of undeveloped tundra and taiga
- Following the collapse of the USSR, the economy of the RFE has become more oriented towards international markets, especially the Pacific Rim countries which account for almost 90% of RFE exports. The RFE supplies primarily extracted raw materials.
- Industries in the RFE are seeking to develop the capacity to process raw materials internally. Until value-added industries develop, the region will continue to focus on the short-term gains of exporting unprocessed materials.

The Forest Industry Complex of the RFE

- Two of the major determinants affecting the FIC are the status of the forest resources of the RFE, and the level of forest management and related land use and environmental issues.
- The **Forest Fund** included about 498 million ha in 1993, or about 80% of the total land area of the RFE. The Forest Fund includes both forest lands and non-forest lands. **Forest land** is land within the Forest Fund on which it is technically possible to grow tree species, which has been set aside for that purpose, and which constitutes the main basis for activities of the FIC. Forest lands total about 351 million ha, comprising about 70.5% (1993) of the total Forest Fund of the RFE.
- **Forest Lands** within the Forest Fund can be either **Forested** or **Non-forested** depending upon the present status of the vegetative cover. **Forested lands** within the Forest Fund totaled almost 274 million ha in 1993, comprising about 44% of the total land area in the RFE, 54.9% of the total Forest Fund and almost 80% of the Forest Lands. The **Non-Forested** component of forest lands are technically allocated for growing tree species, but are not presently occupied by sufficient forest cover. These lands include both plantations and non-regenerated forest lands and constitute the potential basis for further expansion of the forested land category.
- **Non-Forest Lands** within the Forest Fund are just over 147 million ha in the RFE (1993). These lands are mainly swamps and mountain deserts, with little potential for conversion to forested lands or for future logging.
- Forests in Russia are classified by three categories of protection.
 - Group I** are strictly protected forests (13.2% of Forest Fund). All forms of legally protected areas are allocated to this group. Commercial logging is forbidden in this category of forests, although sanitary felling may be permitted.
 - Group II** includes forests in areas with a high density of population, a developed transport network, and both protective and limited-use functions (1 % of the Forest Fund). Principal cutting (commercial harvests) should be carried out in a way to preserve the nature-conservancy functions of these forests.
 - Group III** forests (85.8% of Forest Fund) are forests allocated primarily for commercial exploitation. They are specified by legislation as developed and to-be-developed forests. The forest resource base which is potentially available for logging and for support of the FIC is mainly the group III forests.

- About 61% of forested lands in the RFE are located in the Northern sub-regions of the RFE (Yakutia, Chukotka, Magadan) with a harsh climate. Permafrost, which underlies about three-quarters of the forests, cold weather and low precipitation limit tree growth and regeneration. These forest areas are also of low productivity and have low stocking densities, which inhibit the development of the FIC in this part of the RFE.
- Almost all forests in the RFE (except Yakutia) are mountain forests. This factor increases costs of logging and in many cases makes forests economically inaccessible.
- Forests of the RFE are primarily conifer (71.9%) with larch dominating (60.9% of all forests). The share of conifer forested area increases from the south to the north. The most valuable forests for the timber industry complex are the mixed conifer-deciduous forests in the south of the RFE. Korean pine, oak, ash and birch are the primary components of this mixed forest.
- Almost half of all the forest inventory in the RFE is mature or over-mature and is considered available for principal felling. The distribution of these age classes is almost evenly distributed across the RFE. This age structure determines the value of the annual allowable cut (AAC).
- Under existing levels of technology and infrastructure the utilization of AAC is very low (14%). Southern sub-regions of the RFE have the highest percent of utilization of AAC, although it is at present much less than under socialist conditions. Forests in Sakhalin are all developed and this sub-region has the highest percent of utilization of AAC at 41 % (1994).
- Forest management systems (especially forest protection) suffer the lack of funding and a distorted monitoring system. Only 28% of total required area was actually reforested in 1994. Only 7.7% of the area which needed to be planted for plantations was actually planted.

Current Status of the Industries of the FIC and Future Development

- The FIC includes forestry, the logging industry, wood-processing, pulp and paper, microbiology, hydrolysis, and furniture sub-sectors, all based on the forest resources of the RFE. The logging, wood-processing and pulp and paper industries make the greatest contribution to the industrial production of the FIC in the RFE. The logging industry is the most developed and the timber economy is mainly oriented to extraction of raw materials.
- The role of the FIC in the economy of the region was more significant before the introduction of reforms. The traditional planned supply and demand systems collapsed after the reforms, while individual timber enterprises have become more independent.. The declines in production have continued due to constantly changing regulatory structure, lack of capital, and political and economic chaos.
- The reduction in lumber manufacturing has been dramatic. In 1994 lumber manufacturing volumes fell to only 54.5% of the 1950 level. It is essentially now more profitable for most logging enterprises to export unprocessed logs than to sell them to domestic sawmills. There has also been a striking drop in the production levels of pulp, paper and paperboard for the year 1994. Paper production has almost stopped.
- Productivity of the industries in the RFE is only 31.3% of the productivity of the Russian FIC as a whole. Among the main reasons of the worsening situation in FIC are: 1) completion of industrial development of the most accessible forests and uneconomic conditions for undeveloped forests under existing levels of technology and infrastructure; 2) frequent reorganizations in forest management and wood production; 3) rapid increase of all production costs (especially for transportation and energy) due to market adjustments and inflation, which has caused a decrease in competitiveness of regional forest products; 4) sharp decline of demand for wood products in the RFE; 5) loss of western Russian markets for wood products due to the sharp increase of railroad tariffs; 6) shrinking positions in international markets due to chaotic export policy regulations and low quality of wood products which did not meet international requirement; 7) sharp decline in regeneration of forest resources; and 8) increase of ecological, environmental and sustainable management restrictions.
- A main reason for the crisis in the FIC has been the rapid depreciation of main production assets. Modernization in a forest industry has not been a sector-wide process. Rather, upgrading facilities has

been carried out on a limited, enterprise basis and has largely depended upon funding by foreign capital investments.

- The geographical location of the enterprises (especially the distance from ports) has begun to play a large role under the new economic conditions. Enterprises of the FIC located in the lower reaches of the Amur River and enterprises near railroads and ports have concentrated on roundwood production for exports which have become more profitable than domestic processing. Enterprises which are farther away from railroads and which use long road hauling or river routes have encountered difficult economic conditions.
- Labor productivity remains at a low level. In 1994 it was 360 m³ per worker (roundwood equivalent), or about 1/2 to 1/3 of the level in competitor countries. Reductions of industrial harvest and low salaries also caused a reduction in employment in the industries of the FIC.

Transportation Infrastructure Affecting the FIC

- RFE transportation systems were developed to connect the western territories of Russia and the resource-rich areas of Central Siberia with the Pacific Rim countries. Transportation systems running from north-to-south were neglected. All different modes of transportation (sea, river, truck and rail) are utilized to transport timber to the consumers. International export is conducted mainly via sea routes.
- New ports have emerged in the last five years, and major ports including Vanino and Sovgavan' have been expanded. The road system is poorly developed and is concentrated in the southern part of the RFE region. Future construction will be required for the FIC to secure shorter routes to the RFE seaports and to access presently inaccessible forest resources.
- Main freight transport routes for transporting timber include:
 1. Trans-Siberian Railroad to the southern ports of Primorskiy Kray (*Nakhodka, Vostochniy, Poset, Zarubino, Bol'shoy Kamen', Slavyanka*) and all ground transfers via China and Korea borders;
 2. Baikal-Amur Mainline (BAM) to the ports of Vanino and Sovetskaya Gavan';
 3. Lower part of Amur River with its terminals;
 4. Areas around the seaports and terminals of Primorskiy and Khabarovskiy Kray (*Svetlaya, Plastun, Preobrazhenie, Ol'ga, Amgu, Rudnaya Pristan', De-Kastri, Mis Lazarev*), Tiksi in Yakutia, Ust'-Kamchatsk in Kamchatka and terminals of Sakhalin;
 5. Domestic, locally-constrained freight transport routes of Yakutia, Kamchatka, Magadan and Sakhalin.
- The Trans-Siberian freight route accounted for the majority of timber transportation in the RFE (30.9%). The Baikal-Amur route was second in significance (26.7%) of all domestic closed freight routes and played a large role for producers of Northern territories and Sakhalin. About 8.3% was shipped via the lower part of the Amur River.

International and Domestic Trade Impacts on Forest Products Development In the RFE

- In the mid-1980s about 15-20% of wood products produced in the RFE were exported to other regions within the former USSR; 25% were exported to international markets (with Japan and China as major customers); and the balance was consumed within the RFE. Since 1994, shipments to the other regions of the former USSR have almost ceased. In 1995 approximately 50% of production was exported to international markets while 50% was consumed in the RFE region.
- Major wood products exports originating in the RFE are from Khabarovskiy Kray, Primorskiy Kray and Sakhalinskaya Oblast. The Khabarovskiy Kray and Primorskiy Kray sub-regions will continue to be major industrial roundwood exporters in the RFE region. Northern sub-regions exports of wood product are negligible.
- Exports of lumber were 110 thousand m³ in 1995. Primorskiy Kray is the leader in lumber export, accounting for 66.3% of the total lumber export of the RFE, and will likely remain as the single chip exporter (30 thousand tons in 1995) in the near term.
- The number of Russian timber exporters has increased since the cancellation of export timber licensing permits. This has resulted in price decreases for Russian timber on the international market. Large

intermediary firms and associations have tried to unite small exporters in order to maintain the previously prevailing price levels. About 20% of timber is exported directly by independent exporters, mainly exports of logs by truck and railroad to China.

- Chaotic timber export regulations and violations of contract terms undermine the trust of foreign partners and the position of Russian timber in major Pacific Rim markets. The main obstacle in receiving a satisfactory (profitable) price for exports is the perceived lower quality of delivered wood products.
- Hard currency regulations announced on July 4, 1994, and a broad range of exchange rates were introduced in order to help Russia's national producers. However, this negatively affected the profitability of export trade in wood products and even caused bankruptcies of some FIC enterprises of the RFE region by reducing the net prices when converted to ruble accounts.
- Joint ventures (JVs) or those domestic enterprises with access to foreign capital have played a significant role in restructuring the FIC. Usually they have provided the necessary investments to support logging or other forest industry sub-sectors where they are involved.
- On September 1, 1995 108 JVs were registered in the RFE, related to timber industry. Almost 67% of JVs specialize in logging and production of industrial roundwood for export. The most prominent contributions to international trade were made by JVs of Primorskiy Kray, Khabarovskiy Kray and Sakhalinskaya Oblast sub-regions
- The economic efficiency of most JVs has declined over time. Economic instability in the region and frequent changes in investment legislation have had a negative impact on foreign investment decisions linked to further development of the FIC of the RFE.
- The Japanese market has always been the major foreign market for RFE wood products. Roundwood totally dominates the RFE export structure to Japan. Lumber and chips have recently comprised only about 13.7% of the total by volume. Export of plywood and pulp and paper products was negligible.
- Lumber exports from Russia have increased, due in part to Russian efforts to improve the overall export structure to increase the share of value-added. Russia has sought to insure this by including special terms related to value-added products in the new compensation agreement with Japan.

Implications and Near-Term Prospects for the FIC

- The significance of international trade with countries of the Pacific Rim and China has increased in the period since reforms were implemented, while the domestic trade within the Russian Federation and former USSR republics have lost position.
- For the future development of FIC of the RFE region it will be necessary to restore a balance with both domestic and international markets. The domestic market consumed about 20 million m³ of wood products (in roundwood equivalent) from the RFE in the years of maximum production (1980's), while approximately 10 million m³ were exported. Logs dominated in the previous RFE export structure, while domestic markets consumed many kinds of different processed forest products.
- Major determinants of the near-term outlook for the FIC of the Far East region can be grouped into three broad categories:
 - I. National and regional macro-economic factors;
 - II. Factors related to land base, forest resources and environment;
 - III. Factors related to forest industrial production and markets.
- Group I (macro-economic) factors are largely outside the direct control of the FIC. However, these factors form the economic environment framework and determine the major policies for industrial development under continuing reforms. This group of factors include the major decisions made at the national and regional levels which will shape economic development of the region: transportation infrastructure, tax policy, and foreign investments.
- Group II (status of land base and forest resources of the region) factors are presently more stable than either Group I or Group III factors. Neither the land base, nor the accessibility of forest resources has

changed in significant ways over the last three forest inventory periods. However, conditions for the economic utilization of the resources as well as introduction of sustainable forest management and environmental regulations will be critical to the future. This group of factors includes overall land use, classification of forest resources for non-timber and protective uses, conditions of forest resources and the economic accessibility, forest management (including reforestation), forest-linked environmental policies and requirements.

- Group III (forest industrial production and markets) factors largely depend upon achieving a stable economic and political environment (Group I) as well as upon the longer term status and allocation of the forest resources (Group II). This Group includes the following major determinants: international markets and trade, domestic markets and intra-Russia trade, new trade and forest policy and business regulations, technology, and transportation costs.
- The Group II factors form the primary basis for the near-term development of the FIC in the RFE. Land use and the resource base have been the most stable influences over recent years, although the economic parameters shaping feasibility of access and use have changed dramatically. These factors will continue to play a moderate role for the future development and restructuring of the FIC of the region in the near-term.
- Environmental values associated with the forests of the RFE are forecast to grow, perhaps significantly, in importance in the future. Where land use changes are involved, allocating lands to non-timber purposes will reduce the commercial forest land base (Group III forests) available for logging and support of the FIC. However, in the near-term these factors appear to be less significant. The forest resource base of the Southern sub-regions will largely remain accessible and economically attractive for logging companies. This part of the RFE can be expected to provide the base for the near-term future development of the regional FIC.
- Group III factors (industrial production and markets) have been changed dramatically during the period of economic and political reforms. International trade and transportation costs have become the major determinants of the development of the FIC of the RFE. The importance of access to new production techniques and modern technology has increased greatly, though progress has been seriously impeded greatly by the severe shortage of operating and investment funds. In the near-term, future production of roundwood for export will likely remain as the major trend in the development of the FIC in the RFE.
- It is possible that the economic level and composition of the RFE forest industrial complex may be below the prior socialist levels given the need to rationalize resource use and respond to the actual real costs of production. Exposure to the international markets may prove to be a significant advantage if comparative advantage can be established for more processed materials in lieu of growing exports of unprocessed logs. The loss of traditional domestic markets will place a stress on the FIC to adapt to changing domestic demands and the disadvantages of great distance from those markets.
- It will be necessary for the FIC in the Russian Far East to work out the elements of a strategic plan for the near term development of the entire region which is supportive of the unique conditions of this important sector. The integration of all the key determinants (factors) affecting the FIC into such a strategy will be critical. Timber resources alone will not be sufficient to assure an internationally-competitive forest industry capable of fully contributing to the recovery of the Russian Far East.

Full Report \$20.00: [To Ordering Instructions](#)

Back to [Publications List](#)