

Institute for Global Environmental Strategies



CHINA'S IMPORTS of Russian Timber

CHINESE ACTORS IN THE TIMBER COMMODITY CHAIN AND THEIR RISKS
OF INVOLVEMENT IN ILLEGAL LOGGING AND THE RESULTANT TRADE



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March 2008

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Cover photo: Timber imported from Russia waiting for distribution to China's interior markets - Suifenhe, Sept. 2006. Photo credit – Tian Yanfang. All photos in this publication are the copyright of the author.

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ABSTRACT

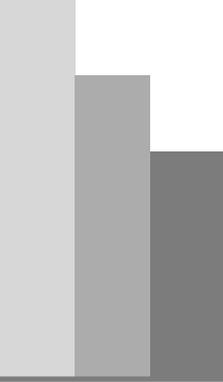
Since the end of the 1990s, the Sino-Russian border regions have witnessed a dramatic, unprecedented increase in cross-border timber trade that has made Russia the largest log supplier for China's expanding wood industry sector. Driving factors include: severe constraints in China's domestic wood supplies, the availability of rich forest resources in the Russian Far East and Siberia, liberalised trade policies and demand from both domestic and European, Japanese and US markets for low cost Chinese wood products.

This study provides a contextual description and analysis of the cross-border timber trade boom and the actors involved. It examines the current challenges faced by a largely inefficient Russian forestry sector and decentralised Russian forest administration in the context of illegal logging and unsustainable forestry practices, both widely viewed as having reached serious dimensions.

This study focuses on the involvement and role of Chinese actors throughout the supply chain. Chinese companies have entered the Russian forestry sector, introduced greater efficiency and proved competitive. This involvement has also opened doors for Chinese actors to inadvertently or intentionally participate in illegal activities throughout the supply chain. In addition to timber harvesting, Chinese actors are involved as intermediaries in the commercial log depots and control the wholesale timber market in some parts of Russia. Chinese actors have also increasingly invested in wood processing in Russia, partly in response to the adjustment of the Russian export tax on logs. Most recently, there has been a trend towards vertical integration for Chinese companies, with intermediaries and wood importers attempting to extend their business to every node of the trading network. On the Chinese side of the border, preferential tax policies and infrastructure investment have spurred a rapid development of the timber processing industry with private sector processing mills replacing state-owned timber processing factories.

To promote responsible timber trade within this context of commodity chain transformation, the study recommends the following measures:

- *Establish inspection sites near the commercial depots;*
- *Enhance the effectiveness of administrative inspection through technical improvement, harmonisation of regulations and setting-up of an integrated monitoring system;*
- *Localise international forest certification schemes;*
- *Chinese and Russian government agencies to provide joint guidance on documentation that could be used by traders to establish a chain of custody for forest products;*
- *Establish a China-Russian multi-stakeholder working group to monitor the timber trade and exchange customs data in a timely manner;*
- *Chinese government to revise its procurement policy to favour legal and sustainable wood.*



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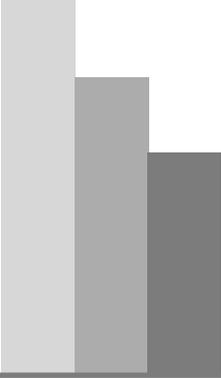
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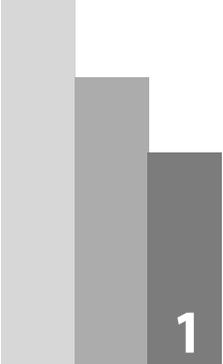
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ACRONYMS, ABBREVIATIONS AND FOREIGN TERMS

BROC	Bureau of Regional Outreach Campaigns
CIFOR	Centre for International Forestry Research
FSC	Forest Stewardship Council
FSF	Friends of the Siberian Forests
ha	hectares
JAO	Jewish Autonomous <i>Oblast</i>
<i>krai</i>	territory
<i>lepromkhoz</i>	major state enterprise
<i>leskhoz</i>	forest management unit
NFPP	Natural Forest Protection Programme
NGO	non-governmental organisation
<i>oblast</i>	regions or autonomous regions
<i>okrug</i>	autonomous area
<i>perestroika</i>	literally “restructuring” – 1980s economic reforms of Mikhail Gorbachev
<i>raion</i>	a district or municipal level subordinate to an <i>oblast</i>
RFE	Russian Far East
RWE	roundwood equivalent
SFA	State Forestry Administration (China)
SOFE	state-owned forest enterprise
UNECE	United Nations Economic Commission for Europe
USD	United States dollar
VAT	value-added tax
WWF	World Wide Fund for Nature



1 INTRODUCTION

Because of growing global concern for high rates of deforestation in producer countries that is partly being driven by the international timber trade, China's sharp expansion of forest product imports, especially from forest-rich countries of the Asia Pacific region, is attracting a great deal of attention. Of China's imports, about 75% of timber products and over 60% of forest products are from this region (White et al. 2006). The focus of this paper is on the cross-border timber trade between Russia and China in the area that links the Russian Far East (RFE) and Siberia with China's northeastern provinces.

China's influential and expanding role in the global forest products market has concerned many forest interest groups and prompted them to sponsor a number of recent studies. (Sun et al. 2004)¹ found that Asia-Pacific countries that supply forest products to China are experiencing unsustainable harvesting practices and illegal logging, which undermines the livelihoods of forest communities. One consequence of this unsustainable logging is that, with the exception of Russia, China's major log supplying countries could at best maintain their current supply for another twenty years before their forests are commercially depleted (Katsi-

gris et al. 2004). Resource limits also constrain expansion and long-term continuation of the export of processed wood products to China from producer countries.

Russia is China's largest wood supplier and, conversely, China is Russia's largest wood importer. This trade centres on timber originating from the RFE and East Siberia, which is exported to China through trans-border railway links with China's northeastern provinces. The health of the Russian forest sector is not only critical to China's future timber imports, but also the development of China's growing wood processing industries.

Over time a stereotypical view of Russian forests as an abundant commercial resource has evolved. In reality, however, the Russian forest sector is currently suffering a number of problems including intensive over-cutting, inefficient administration and illegal logging that collectively present a formidable challenge to sustainable forestry (Dieterle and Kushlin 2004). Illegal forestry in the RFE and Siberia is generally a result of weak, corrupt management and incomplete legislation (Forests Monitor, BROC and FSF 2005). By outlining the Russian side of the timber commodity chain (e.g., Lankin 2005)

1. This article stems from a collaborative project titled "China and the Asia-Pacific - Markets for Sustainable Livelihoods and Forests" conducted jointly by Forest Trends, the Centre for International Forestry Research (CIFOR) and their partners in China and the Asia-Pacific region.

and examining the means of transportation, distribution, processing and utilisation of Russian timber in the Chinese market (e.g., Yamane 2005), independent researchers have suggested that the transactions are informal and decentralised, with no unified recordkeeping, and that this has presented serious obstacles to implementing chain-of-custody controls and other wood-tracking systems (Song et al. 2007). An important challenge is thus to make all links of the timber commodity chain fully transparent and controlled (Sheingauz, Lebedev and Antonova 2005).

To promote responsible timber trade between Russia and China a complete understanding of the timber commodity chain is necessary. This requires research on how the major stakeholders in timber trade networks behave and what governs their behaviour. Studies of these issues, particularly of Chinese actors, are rare. The main objective of this paper is to better understand the cross-border timber trade networks involving Chinese and Russian actors, focusing on who they are, what their roles are in the network and how they interact with one another.

Section 2 describes the background of the timber trade between China and Russia, focusing on the growing Chinese demand for timber imports, Russia's role in contributing to meeting this demand, the routes by which Russian timber enters China, and the trade-related policies of the two countries that impact on Russian timber exports to China. Section 3

describes forests, forest-related policies and administration, the wood industry and wood product exports, and discusses aspects of weak forest management, including illegal logging, in the Russian Far East and Siberia. Section 4 analyses the involvement of Chinese actors in the timber commodity chain, including the transformations the chain is undergoing and the resultant risks for Chinese involvement in illegal logging. This part of the discussion draws heavily on interviews with actors conducted by the author. The concluding section presents recommendations based on the research findings for promoting responsible timber trade between the two countries.

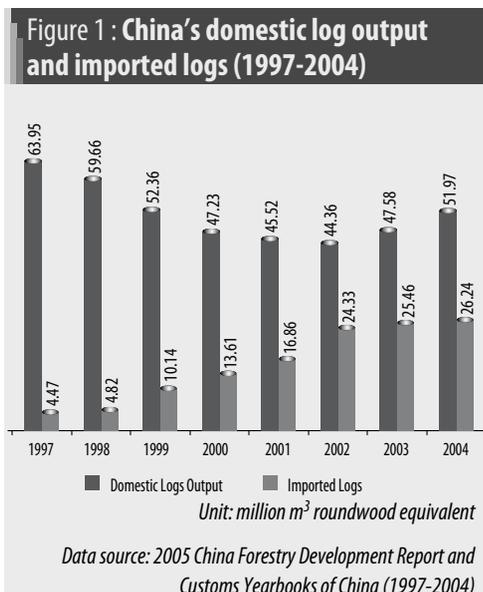
Most of the interviews for this study were conducted in September 2006 and February 2007. During the survey in Heilongjiang, the author visited Yichun City, where state-owned forest enterprises are located, Suifenhe City, one of the major rail gateways for receiving Russian timber, and Dongning City, one of the major road gateway cities. Both Suifenhe and Dongning are also characterised by the development of the timber processing industry. In Russia, the author visited *Dalnerechensk Raion* (or district) in *Primorsky Krai*, where Chinese actors are actively involved in logging, timber trading and the processing business. The informants interviewed included government officers, researchers, local non-governmental organisations (NGOs) and representatives of public and private logging, timber trading and processing companies of both countries.

2

FEATURES OF CHINA-RUSSIA TIMBER TRADE

2.1 The gap between supply and demand of forest products in China

China's timber import dependence has increased steadily since the end of 1990s. In 2004, the total market supply of forest products was 306.7 million m³, of which imported logs and wood-based products accounted for 109 million m³, or 35.6% of the total market supply (SFA 2005). The volume of imported logs was as much as half of the total output of domestic log production. Figure 1 compares the volume of China's domestic log output with the volume of imported logs.



China is a relatively forest-poor country. Over-harvesting in recent decades has depleted many of its mature timber forests. According to an announcement on the sixth national survey of forest resources (1999-2003) made by the Chinese State Forestry Administration (SFA), the forest area is 174.9 million ha with a total forest stock volume of 12.4 billion m³ (SFA 2005). The report also estimated that from 2005-2010 the annual consumption of forest products will increase at a rate of 10 million m³, reaching 210-230 million m³ roundwood equivalent (RWE) in 2010 and 400-430 million m³ RWE in 2030.

China's increasing demand for foreign timber is spurred by: 1) a sharp decline of domestic forest resources, 2) an increase in domestic consumption, and 3) growing demand in the US, Europe and elsewhere for the low-cost products manufactured in China (He and Barr 2004; Bull and Nilsson 2004; Sun, Katsigris and White 2005).

In 1998, China suffered great human and economic losses from severe floods in several large river basins - the Yangtze River, the Yellow River and the Songhuajiang and Nenjiang Rivers. Over-cutting of natural forests in the upper watersheds of these basins was considered a major contributor to the floods, being responsible for soil erosion and the degradation of ecological systems. The floods accelerated the

development and implementation of the Natural Forest Protection Programme (NFPP), which focuses on logging reduction in natural forest, massive reforestation and alternative business development in 167 state-owned forest enterprises in northeastern and southwestern provinces. Reductions of commercial timber production and logging bans were implemented in approximately 60 million ha of natural forest. If China continues with its strict logging quota to control forest depletion and its policy of improving timber self-sufficiency through massive plantation programmes, the SFA predicts that, under an optimistic scenario, the future domestic industrial wood supply will be 160 million m³ in 2010, 280 million m³ in 2015 and 300 million m³ in 2030, finally reaching between 574 and 719 million m³ in 2050 (SFA 2005). Therefore, China will still face a timber shortfall of 50 to 200 million m³ annually (Ibid.).

2.2 An overview of China's forest product imports

Since 1998, the species composition of China's imported logs has shifted from hardwood-dominant to softwood-dominant. Hardwood is commonly used for furniture, plywood, floor-board production and for decorative purposes in construction. China's high grade broadleaf forest stock is too limited to meet the growing demand of the wood processing industry for

hardwood material. Consequently, in the early years of the 1990s China imported more hardwood than softwood. The dramatic rise in softwood imports was observed as the NFPP was introduced and the logging ban was implemented in northeast China, which is the major production base for coniferous wood. The shortfall caused by China's reduction in domestic softwood production was quickly filled by imported Russian larch, Mongolian Scots pine, spruce and abies, which are similar to tree species found in China's northeast.

Table 1 shows that in 2005 China imported 35.3 million m³ of logs and lumber, which was a fivefold increase above imports in 1998 - the year when China launched the NFPP. The import surplus of 28.8 million m³ between 1998 and 2005 slightly exceeded the amount of output reduction caused by the NFPP. Compared with 1998, softwood log imports increased by 16.8 million m³, accounting for 58.3% of China's total increment of logs and lumber imports. Over the same period Chinese hardwood log imports rose by 7.76 million m³, which contributed to 26.9% of this increment.

2.3 Russia as China's major supplier

Timber trade between China and Russia can be traced back to the times of the planned economy when each year China imported about three million m³ of forest products from the former

Table 1 Chinese wood imports (million m³)

CHINESE IMPORTS	1997	1998	1999	2000	2001	2002	2003	2004	2005
Softwood logs	0.93	1.48	4.55	6.40	9.14	15.78	14.97	16.00	18.27
Hardwood logs	3.50	3.34	11.33	7.2	7.72	8.55	10.94	10.24	11.1
Total logs	4.46	4.82	10.14	13.61	16.86	24.33	25.46	26.24	29.37
Lumber	1.33	1.68	2.18	3.64	4.03	5.39	5.51	6.00	5.97
Total of imports	5.79	6.50	12.32	17.25	20.89	29.72	30.91	32.24	35.34

Source: Customs Yearbooks of China (1997-2005).

Table 2 Importance of Russian logs to Chinese wood imports (million m³)

Chinese imports	1997	1998	1999	2000	2001	2002	2003	2004	2005
Russian softwood logs	0.53	1.07	3.81	5.48	8.23	13.85	12.58	14.80	17.15
Russian hardwood logs	0.42	0.52	0.50	0.45	0.54	0.96	1.78	2.21	2.89
Total Russian logs	0.95	1.59	4.31	5.93	8.77	14.80	14.37	16.96	20.04
Total logs	4.46	4.82	10.14	13.61	16.86	24.33	25.46	26.24	29.37
Ratio of Russian log imports to total log imports	21.27	30.99	42.47	43.57	51.98	60.86	56.44	64.63	68.25

Source: Customs Yearbooks of China (1997-2005).

Soviet Union through state-run trading companies. The structure of trade has subsequently changed significantly, becoming more market oriented and with private businesses replacing the former state-owned companies as the leading actors.

Recent years have seen a substantial increase in China's imports of Russian wood products. Logs and lumber make up the majority of Russian forest product imports and their imported volume has grown at a higher rate than that of other forest products such as paper, pulp and paperboard. In 2005, China imported a total of 29.37 million m³ of logs and 5.97 million m³ of lumber (Table 1). Russian logs and lumber accounted for 68.99% (20.04 million m³) and 17.69% (1.06 million m³) of these totals, respectively (Customs Year book of China 2005).

2.4 Russian logs imported by China

China imported considerably more softwood logs than hardwood logs from Russia. Table 2 shows that the import volume of softwood logs jumped from 0.53 million m³ in 1997 to 17.15 million m³ in 2005, an average annual growth rate of 54.4%, which accounted for 85.56% of total logs originating from Russia in 2005. Housing and construction accounted for approximately 90% of the end use markets in

China for imported Russian softwood logs, primarily for non-structural timber and for plywood. Another 10% is used for decorative purposes and furniture, in the form of concave lumber or strips, or used for mine props (Cheng, Song and Zhang 2005). This remarkable increase in imports of Russian softwood logs was encouraged by their cheap price relative to other sources and reflected China's strong demand for construction materials.

The absolute volume of Russian hardwood log imports by China quintupled from 417,800 m³ in 1997 to 2.89 million m³ in 2005. The share of imported Russian logs, however, dropped steadily from as much as 44% to 14.4% over the same period. The broadleaf species include ash, oak, linden, elm, and aspen. In 2005, ash and oak jointly contributed 34.4% of imported Russian hardwood and accounted for 99.52% and 62.20% of China's total import of these species, respectively².

2.5 Russian lumber imported by China

Russian lumber imports by China shows a similar trend to that of log imports. Softwood lumber imports grew at a higher rate than those of hardwood lumber. Chinese imports of Russian softwood lumber increased from 68,000 m³ in 1997 to 910,000 m³ in 2005. Hardwood

2. Calculated by the author using data from the 2005 Customs Yearbook of China.

Table 3 Importance of Russian lumber to Chinese wood imports (million m³)

CHINESE IMPORTS	1997	1998	1999	2000	2001	2002	2003	2004	2005
Russian softwood lumber	0.0068	0.0096	0.0757	0.1286	0.237	0.46	0.44	0.65	0.91
Russian hardwood lumber	0.0044	0.0025	0.0065	0.0289	0.071	0.095	0.125	0.15	0.15
Total Russian lumber	0.0112	0.012	0.082	0.157	0.31	0.55	0.56	0.80	1.05
Total softwood lumber	0.30	0.398	0.393	0.47	0.64	1.189	1.37	1.88	1.70
Total hardwood lumber	1.02	1.29	2.36	3.14	3.39	4.21	4.14	4.12	4.27
Total imported lumber	1.33	1.68	2.18	3.64	4.03	5.39	5.51	6.00	5.97
Ratio of Russian lumber imports to total lumber imports	0.84	0.72	3.77	4.33	7.64	10.22	10.18	9.35	17.69

Source: Customs Yearbooks of China (1997-2005).

lumber imports grew by thirty-four times during the same period (Table 3).

From 1997-2005 Russian hardwood lumber accounted for a low share of the Chinese market because temperate species were not used to the same extent as tropical timbers by China's furniture manufacturing and decorative wood industries. However, due to a sharp decline of imported hardwood lumber from Indonesia, Malaysia and other tropical countries in recent years, temperate hardwood lumber from Russia has displayed a strong growth trend.

2.6 Trading routes

Several studies (e.g., Yamane and Lu 2001; Yamane 2005; BROCC, FSF and Forest Monitor 2001) have shown that the transportation modes of Russian timber to China include:

- **Through three main railway routes:** Zabayalsk-Manzhouli, Gorodekova-Suifenhe and Naushki-Elienhot (via Mongolia);
- **Across the Amur and Ussuri Rivers by ferries in the summer season and by trucks in winter:** Blagoveschensk-Heihe, Leninskoe-Tongjiang and Bikin-Raohe etc;
- **Over the Argun River bridge (Upper Amur):** Staraturukhaituisky-Heitoushan (Inner Mongolia);

- **Land ports:** Markovo-Hulin, Turii Rog-Mishan, Poltavka-Dongning and Khasan-Hunchun (in Jilin province) - by trucks;
- **Shipping from seaports on the Russian Pacific coasts to the major consuming regions along the eastern seaboard in China:** Dalian (to north-eastern region); Qingdao, Rizhao, Tian Jin (to eastern regions); Zhangjiagang, Taichang, Fuzhou, Shantou, Putian and Yuzhu (to south-eastern and southern regions) etc.

There are thirteen provinces and areas that import forest products directly from Russia. Among these provinces and areas, Heilongjiang and Inner Mongolia are the largest importers. These two provinces accounted for 50.8% and 40.4%, respectively, of China's total imports in 2004 (Yamane 2005). The timber is transported through land and river gateway cities on the Russia-China border. The most important are three railway border crossings at Manzhouli, Suifenhe and Erlianhot, which carry the vast majority of timber.

In the border area an increase in transportation capacity is predicted for the near future. The two governments are intensively negotiating several cross-border road and railway projects, including the fourth railway joining Hulin in Heilongjiang to Leszavodsk in Primorsky Krai,

and bridges connecting Blagoveschnsk-Heihe and Straratsurukhaituisky-Heitoushan. It is projected that the annual transportation capacity of the new railway connection will reach five million tonnes. Figure 2 provides an illustration of the major routes of timber flow in the Russia-China border area.

Russian timber now reaches not only northeast China, but also all the major consuming regions along the eastern seaboard (Sun et al. 2004; Yamane and Lu 2003). Along the Amur River, the timber produced from Amursky Oblast, JAO (Jewish Autonomous Oblast) and Khabarovsk Krai is ferried upstream arriving in the interior cities of Heilongjiang, or by river and ocean modes of transportation are ferried downstream to the seaports in Khabarovsk and Primorsky Krai and then shipped further by ocean. Due to the increasing cost of railway freight in Russia, as well as China's increase in oil imports from Siberia and

the RFE by rail, the share of marine transportation has risen steadily from 6.2% in 2001 (Yamane and Lu 2001) to 13% in 2006 (He et al. 2007).

Aside from those logs that are processed directly in the border areas, other imported Russian logs are distributed in China according to species. Generally, the hardwood species, such as oak and ash, are transported to the coastal cities of Guangzhou, Shanghai and Dalian where the logs will be used for producing furniture and flooring destined for the EU, North American and Japanese markets. The central and western provinces of Liao Ning, Shan Dong, Henan, Si Chuan, Hu Nan and Hu Bei consume mainly softwood (spruce, fir, Scots pine) for construction, coal mining, decorative wood products, and furniture. Aspen and birch logs suitable for making chopsticks and other kitchen items are delivered to Tian Jin and Shandong.



Source: BROCC, FSF and Forest Monitor (2001).

China's Imports of Russian Timber

2.7 Trade-related policies

Trade liberalisation policies in Russia and China have allowed numerous new businesses to enter the timber trade. Traditionally, Siberia and the Far East served as a resource colony for precious metals, timber and fish in the Russian economy. However, their economies declined drastically after the collapse of the Soviet Union and the end of subsidies and credit from the centre. To overcome the economic difficulties the Russian government has taken measures to promote external trade and sought to integrate Siberia and the Far East with Asian-Pacific regions through economic cooperation on energy, natural resources, environmental projects and the development of transport. In line with this policy both the federal and regional administrations issued policies and regulations to open up forests to foreign loggers and forest products traders in order to attract foreign investment in the sector and to promote forestry as one of the export pillar industries. These policies are to recall the monopoly status of authorised companies trading in important resource-based merchandise and to eliminate export quotas on lumber, paperboard, veneer and most other forest products.

In China, a similar trade liberalisation policy was issued in 1999 that halted the exclusive enjoyment of the international timber trade by state companies. All companies with import-export license are now entitled to conduct business in timber and provide relevant agent services. Consequently, timber imports increased dramatically.

Before 2004, in addition to freedom from import taxes, the timber import companies in China that were registered in the border cities used to enjoy a 50% reduction in value-added tax (VAT) of 6.5%, compared to the normal 13% VAT applied to inland timber import companies. The favourable VAT policy allowed Russian timber to enjoy greater cost competitiveness in the Chinese market than Canadian and US timber. As the border trade is huge in both value and volume, China constantly faced pressure from North American timber exporters over this issue. From 2004, except for Manzhouli and Suifenhe where an 11% VAT is levied, the VAT reduction in the border ports has been discontinued.

2.8 Summary

This chapter identified four major trends in the China-Russia timber trade in recent years. First, China's demand for timber has experienced a sharp increase, most of which has been satisfied by imports from Russia. Second, the species composition of China's imported logs has shifted from hardwood-dominant to softwood-dominant. This trend also applies to the species composition of logs imported from Russia, which is affected by limited hardwood supplies. Third, over 80% of all Russian timber is imported through three cross-border railways, which makes the three Chinese border cities of Manzhouli, Suifenhe and Erenhot the main entry level markets for Russian timber. Fourth, liberalisation reforms in both China and Russia have greatly encouraged the timber trade between the two countries.

3

FORESTS AND FOREST-RELATED POLICIES IN THE RUSSIAN FAR EAST AND SIBERIA

3.1 Overview of forest resources in the Russian Far East and Siberia

Forests in the Far East and East Siberia cover 722 million hectares (ha). The forest ecosystems cover 45% of the total area, accounting for 46% of all the forest land in Russia and about 9% of the world's forests (Shestatov 2004). These forests are crucially important for Russia and the entire planet as they provide environmental services, mitigate climate change by serving as carbon sinks, protect watersheds, and are sites of significant biodiversity. They also have "spill over" environmental importance for China's northeastern regions. For instance, the watershed of the Ussuri River³ spans 26.2 million ha and covers large parts of Khabarovsk Krai and Primorsky Krai in Russia and Heilongjiang Province in China (Marcot et al. 1997). It provides a unique ecosystem where the conifer forest ecosystem from the Siberian north intermingles with the temperate hardwood forest ecosystem from the south. The Ussuri River watershed is also the only place on Earth where brown bears and Siberia tigers occupy the same habitat (Dinerstein et al. 1994) and is China's only known spawning ground for sturgeon and salmon.

In accordance with the Forest Code of 1997, Russian forests were divided into three groups

based on their economic and environmental functions. Group I forests (20%) are set aside for their protective functions, Group II forests (6%) are located in areas with high population densities and/or low forest resource potential, and Group III forests (73%) are located in the forest abundant regions of Russia and are mainly of exploitation importance. In the new Forest Code enforced in 2007, following international practice forests have been reclassified into reserve, protection and production forests according to their economic, environmental and social importance. In each type of forest "special protection parcels of forests" are set aside, which makes the new Forest Code particularly meaningful for preserving the most ecologically valuable forest areas in production forests. Within protection forests more specific management regulations are applied to forests of different protection importance. Selective cutting for tending purposes is allowed, but clear-cutting is strictly prohibited. However, as the Taiga Rescue Network (2007) noted, forests within water conservation zones are excluded from special protection forest parcels and "demoted to a lower level of protection" as with many existing protected areas.

Table 4 provides forest stocks of dominant species in RFE and Siberia. Most of the forests in the RFE and East Siberia are found in the

3. *Wusuli Jiang*, in Chinese.

Table 4 Distribution of RFE and Siberia timber stock (by dominant species)

Forest Fund	Russian Federation										
	Byryatia Republic	Tomskaya Oblast	Sakha Republic	Krasnoyarsky Krai	Irkutsky Oblast	Chitinskaya Oblast	Khabarovsk Oblast	Amursky Oblast	Primorsky Krai	Sakhalinskaya Oblast	
Forest Area (000 ha)	27949.90	26715.70	255602.20	59273.70	68029.50	31517.70	75230.80	30927.70	12366.50	7060.90	
Forest Stock	2039.49	2605.12	8933.45	7471.21	8993.06	2449.53	5368.03	2012.41	1827.51	628.10	
Coniferous species	1758.62	1555.27	8498.25	6000.93	7802.59	2082.42	4465.69	1572.69	1181.88	516.94	
Scots pine	367.43	636.51	1022.47	1674.79	2686.06	280.96	116.74	54.61	0.28	2.61	
Spruce & fir	67.79	172.13	49.24	1771.67	784.48	2.27	1400.94	81.06	531.28	352.50	
Korean pine	318.35	745.41	74.17	1553.97	1752.28	191.49	114.27	1.44	440.95	0.00	
Larch	1005.05	1.22	7352.37	1000.50	2579.77	1607.70	2833.74	1435.58	209.37	161.83	
Hard broadleaved species	0.00	0.00	0.00	0.00	0.00	0.00	148.01	20.65	371.17	63.45	
Beech	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Oak	0.00	0.00	0.00	0.00	0.00	0.00	32.24	16.94	214.35	2.47	
Ash	0.00	0.00	0.00	0.00	0.00	0.00	12.01	0.04	41.03	0.00	
Maple	0.00	0.00	0.00	0.00	0.00	0.00	99.63	3.54	100.15	60.48	
Soft broadleaved species	130.64	1049.76	83.91	1368.17	961.60	283.24	375.96	341.50	213.89	18.65	
White birch	76.85	785.54	65.82	997.89	659.83	256.90	217.70	316.45	112.41	8.87	
Aspen	52.68	263.13	11.90	368.93	329.91	26.00	53.15	16.32	23.83	0.73	
Annual Allowable Cut (000m ³)	6226.90	28676.30	35403.80	55082.90	54537.50	13576.10	26574.00	16039.40	8865.40	3651.30	

Note: All units are cubic metres, unless specified otherwise.

Source: UNECE Russian Federation Forest Sector Outlook Study 2003.

Irkutsky *Oblast*, Khabarovskiy and Primorsky *Krais*, and Amursky *Oblast*⁴. The majority of these forests belong to Groups II and III that are subject to industrial wood production with few restrictions on final cutting. Although large forest stocks are also found in the Sakha Republic, they are fairly remote and hardly accessible. Therefore, the forest area suitable for commercial harvesting, according to optimistic estimations, is about 170-250 million ha (Russian NGOs Forest Club 2007).

Table 4 shows that larch is the predominant stand of Siberian and Far East forests and occupies roughly over 40% of the growing stock. Other major commercial tree species are Scots pine, spruce, fir and birch. Some commercially valuable species that can be found in the southeast province - Primorsky *Krai* and partly in Khabarovskiy *Krai* - are Korean pine ("cedar" in Russian) and other hardwood species including oak, linden and ash. Many of these forests are characterised by low growth potential and high vulnerability, since they are extremely sensitive to almost all types of intervention (Sheingauz 1999). Once disturbed, forest areas are often regenerated by white birch and aspen, which are commercially less valuable (Krankina and Ethington 1995).

The forests of the RFE and East Siberia are not very dense: their average density is 76 m³/ha,

while in the south the density of cedar and broadleaf forests may reach 220 m³/ha (Krankina and Dixon 1992). However, even in the south timber growth only averages about 1.5 m³/ha annually (Akim 2000).

3.2 The forest industry in the Russian Far East and Siberia

In the RFE and Siberia, inefficient management techniques and crude cutting activities accelerated forest degradation (Bradshaw and Lynn 1998). In the 1990s, the Russian forest industry experienced a remarkable deterioration. Major state enterprises (*lespromkhoz*) were privatised. Most enterprises came close to bankruptcy. Timber production fell dramatically. The collapse of the state forest industry generated numerous small logging companies equipped with outdated heavy military loading and transportation machinery. By the end of 2000, in Khabarovskiy *Krai* alone the number of logging firms reached 450, a fivefold increase above the number operating during the Soviet period. Besides former loggers they also involved members of forest communities (Lebedev 2003). Facing economic crisis, a number of small logging firms began to violate forest regulations and the forest authorities were unable to suppress these violations.

Table 5 Russian public investment in the forest sector (billion rubles)

Industry	1999	2000	2001	2002	2003
Forestry as a whole	31.1	23.3	19.9	18.2	18.9
Log production	7.0	2.8	2.4	2.7	2.8
Wood processing industry	7.0	4.6	4.2	7.6	7.9
Paper and paper pulp	17.0	15.7	13.2	7.9	8.2
Forest products chemical industry	0.1	0.14	0.07	0.04	0.04

Source: Russia Federal Statistics Service, 1999-2003.

4. The Russian Federation consists of eighty-nine federal subjects named territories (*krai*), republics, autonomous regions (*oblast*), autonomous areas (*okrug*) and federal cities. *Oblasts* and *krais* are analogous to provinces or states.

The development of wood processing lags behind that of the timber extraction industry. The technological and economic dissociation of the entire complex of the wood processing industry, the lack of required investment and the absence of appropriate national policies resulted in a high degree of inefficiency. Since 2000, Russian public investment in the logging industry has stagnated at a level of 2.7-2.8 billion rubles⁵ per year, which is equal to 15% of total investment in forestry (Table 5). Although the ratio of public investment in the wood processing industry to total public investment rose from 22.5% to 41.8% in 2003, the shares of Siberia and the RFE are the lowest: 2.7% was allocated to Siberia and 1.0% to the RFE (Condrashev 2004). The shortfall has greatly been made up by foreign investment.

As a result, in these two regions the overall timber production has recovered but manufacturing capacity has remained very low. The situation in Khabarovskiy Krai serves as an example for understanding the imbalance between timber extraction and manufacture. In 2004, Khabarovskiy Krai ranked third among all Russian provinces and regions in log output but ranked 12th in lumber output. The RWE of manufactured products accounted for 18% of marketable logs or 14.5% of total forest stands harvested in the same year (Kotlobai et al. 2006).

3.3 Wood product exports in the Russian Far East and Siberia

Logging operations in the RFE and Siberia are largely export oriented. Traditionally, the Far East served as the base for Russian raw material exports. During the Soviet period, 45.6% of total exported logs were from the Far East, compared

with 3.3% of lumber, 11.4% of chemical pulp, and 4.6% of paperboard (Barr and Braden 1988). After the collapse of the Soviet Union the domestic market shrunk sharply and the RFE has been further isolated from the rest of Russia due to growing transportation costs. Consequently, the neighbouring countries - China, Japan and South Korea - with strong wood demand became potential markets. Eighty per cent of wood products from these two regions are exported, including roughly 84% of logs, 61-66% of lumber and processed products, and all wood chips (Song 2003).

According to the administration of Primorsky Krai (APK 2005), the major problems found in the wood product exports of the RFE and Siberia are:

- Inappropriate composition of export products, where logs predominate in the forest products trade;
- Lagging expansion of the domestic lumber market, which results in the high dependence of forestry on export markets;
- Outdated technology, inefficient production and low competitiveness in both domestic and international markets;
- Lack of government policies that effectively regulate and monitor trade activity and the flow of foreign capital.

3.4 Administrative and fiscal policies in the Russian forest sector

The new Russian Forest Code has been effective since 1 January 2007, including changes in the legal regime, forest classification, property rights, and concession allocation. There is almost no continuity between the new Code and previous forest legislation. To implement the new Forest Code more than fifty legislative

5. 1 RUB (Russian Ruble) = 0.04 USD on 02/10/2007 (<http://www.xe.com/>).

acts related to forest regulation on either federal or local legislative level have to be adopted in the following year (Lentinen 2004). Forest production and administration activities are currently being conducted within the framework of the Forest Code of 1997. In order to examine the current state of China-Russia timber trade, this paper will mainly focus on the legislative and management system set out in the 1997 Forest Code.

3.4.1 *The forest sector as a whole*

Russia has created an advanced forest science based on more than 300 years of forest management and drawing on the tradition of classical European forestry. Nilsson and Shvidenko (1997) consider that Russian forest management has been and continues to be oriented towards ecosystem and landscape management, which are crucial components of the sustainable development concept. During the stakeholder survey conducted for this study, almost all the respondents pointed out that Russia's present forest management regulations are well established, quite detailed and rigorous.

However, traditional Soviet and current practice in forest management and use prioritises the volume of extracted commercial timber and financial profit over ecological concerns. The Russian forest administration is hampered and distorted by corruption and administrative inefficiencies. Globally, Russia ranks 89th in terms of its extent of bureaucratic "red tape", 74th in judicial independence and 53rd in costs of corruption to business (Porter et al. 2004). Although forest regulations and rules are well developed, due to the widespread corruption and abuse of administrative power at almost every level of government, they are easily violated.

3.4.2 *Role of provincial administration*

In Russia, the forest resource is treated as state-owned property. According to the 1997 Forest Code, the forest fund and all forests, except urban forests, are under federal jurisdiction. Federal forest administrative and management functions are carried out vertically by a specially authorised body, the Federal Forest Service, through federal, regional (forest service directorate), and district (forest management units in certain *raion*⁶, usually titled *leskhoz*) levels. The Forest Service is responsible for forest inventory, monitoring, fire protection, pest and diseases control and related research. In 2000, the Federal Forest Service was integrated into the Ministry of Natural Resources, the primary task of which is resource mobilisation, especially oil and gas production and mining (Kuliasova and Kuliasov 2002). This reconstruction has further weakened the Forest Service in executing important management functions through a sharp shrinkage in personnel and large budgetary shortfalls.

At the provincial level, the responsibilities and authority of forest administration are shared by the provincial administration and the regional forest service directorate. While the forest service is in charge of forest use, monitoring and control activities, as well as protection and reforestation, the provincial government enjoys a high degree of autonomy, allowing it to make most key decisions and to implement forest utilisation programmes. In Khabarovsk Krai, the provincial forest laws and regulations on forest management and decisions on the outcomes of formal forest resource competition processes fall under the authority of the Forest Committee, which is an intergovernmental organisation uniting various agencies related to forest resource

6. *Raion* is municipal level and is subordinate to *oblast*. It is equivalent to district or city.

management⁷. The federal body, the Forest Service Directorate of Khabarovskiy Krai, is a member of the Forest Committee.

The decentralisation of forest administration has deepened the involvement of local governments in managing forests. Weak administrative capacity and bureaucratic intervention of local government often result in unaccountable decision making activities, which enable local elites to gain unfair advantage in obtaining forest concessions. The World Bank called for enhanced transparency and security for resource allocation and identified this as one of the key challenges for Russian forest policy reform (Dieterle and Kushlin 2004).

3.4.3 Transition of the auction system and government behaviour

In Russia, the term of forest lease refers to three forms of owning the right to utilise the forest resource: long-term lease (5-49 years), short-term or one-time use (1-5 years), and free of use charge. The long-term lease and short-term use are also referred to as commercial and non-commercial forest use, respectively, as forest is intended to be allotted under short-term use for silvicultural operations.⁸ Forest free of use charge refers to those forest parcels allocated under the label of "social limit" to organisations receiving budgetary support through local funding, such as local hospitals, schools, and newspaper agencies.

sion of rights will be given to the previous lease owner is not explicitly stated. From the point of view of sustainable use of the forest resource, such terms are not consistent with the term required for a forest to reach the definition of "mature" in the case of the RFE commercial forests, which is normally 80-150 years (Sheingauz 1999).

The 1997 Forest Code introduced the concept of chargeable use of the forest resource and stipulated that rights to forest parcels to which this concept was applied must be allocated through a "competition procedure" (for long-term lease) or "auction procedure" (for short-term use).⁹ Both competition and auction are bidding-based. Under auction, the short-term use right is sold according to the wood on stumps. In contrast, the entire forest resource including timber materials, secondary forest products and minor forest products are to be taken into consideration when pricing a particular forest area for long-term lease. Compared with the auction procedure, the criteria for competition are more restricted and demanding. Before participating in the competition process, the candidates should obtain a recommendation from the *raion* administration and draw up a business plan that includes commitments on the construction of forest roads and forest regeneration. While the members of the provincial forest committee are collectively responsible for deciding the "winner" of the competition process, the forest management unit, or *leskhoz*, enjoys exclusive decision-making power during the auction procedure. The Russian forest management authorities aim

According to the 1997 Forest Code, the maximum length of a lease agreement is forty-nine years and whether priority for the exten-

7. These intergovernmental bodies were working in all the forest regions of Russia and usually were named Forest Commissions. They included representatives from state and regional forest authorities, law enforcement agencies, environmental control and supervision offices, municipal administrations and other concerned authorities.
8. The short-term uses may be issued under different names such as salvage lease and sanitary logging lease.
9. As long as forests remain state property in Russia, neither the competition nor auction procedure is intended to transfer state forest into private property.

to develop a competitive climate so that the scarce forest resource will be "sold" as close as possible to the highest valuation among potential buyers and that the funds generated from competition and auction will be used to subsidise non-profitable forest management and research activities. However, a major obstacle facing the bidding system is the possibility of collusion between sellers and buyers. "One bidder auctions" are common (Jacobsen 1999).

After the bidding system was introduced, 85% of the administration budget of the forest sector relied on the payment for the use of the forest resource (Dahov 2000). In practice, the central government set up the minimum stumpage fee by regions according to the conditions of the forest. On top of the minimum stumpage fee, the provincial administrative bodies established their tax rate based on the result of forest lease competition or auction. The bidding system has increased the state revenue from forest use, especially from the short-term use lease. For instance, in 2000 Amursky *Oblast* sold 600,000 m³ of forest stands through auction at a unit price of 37 rubles/m³, which was three times higher than the minimum stumpage fee set by the federal government (Ibid).

Before 2002 the auction system had encouraged *leskhoz*es to allocate forest parcels to short-term use more than long-term lease. While the fixed payment for minimum stumpage fee was distributed between the federal and provincial accounts at the ratio of four to six, *leskhoz*es could keep the auction-up part between the minimum stumpage fee and a higher price obtained through auction, as this part entered directly into their accounts. The administrative budget distributed from central government to district *leskhoz*es shrunk dramatically after the

introduction of *perestroika*¹⁰ and as long as this remained low the ability of *leskhoz*es to perform their forest administrative functions depended heavily on the income generated from the auctions.

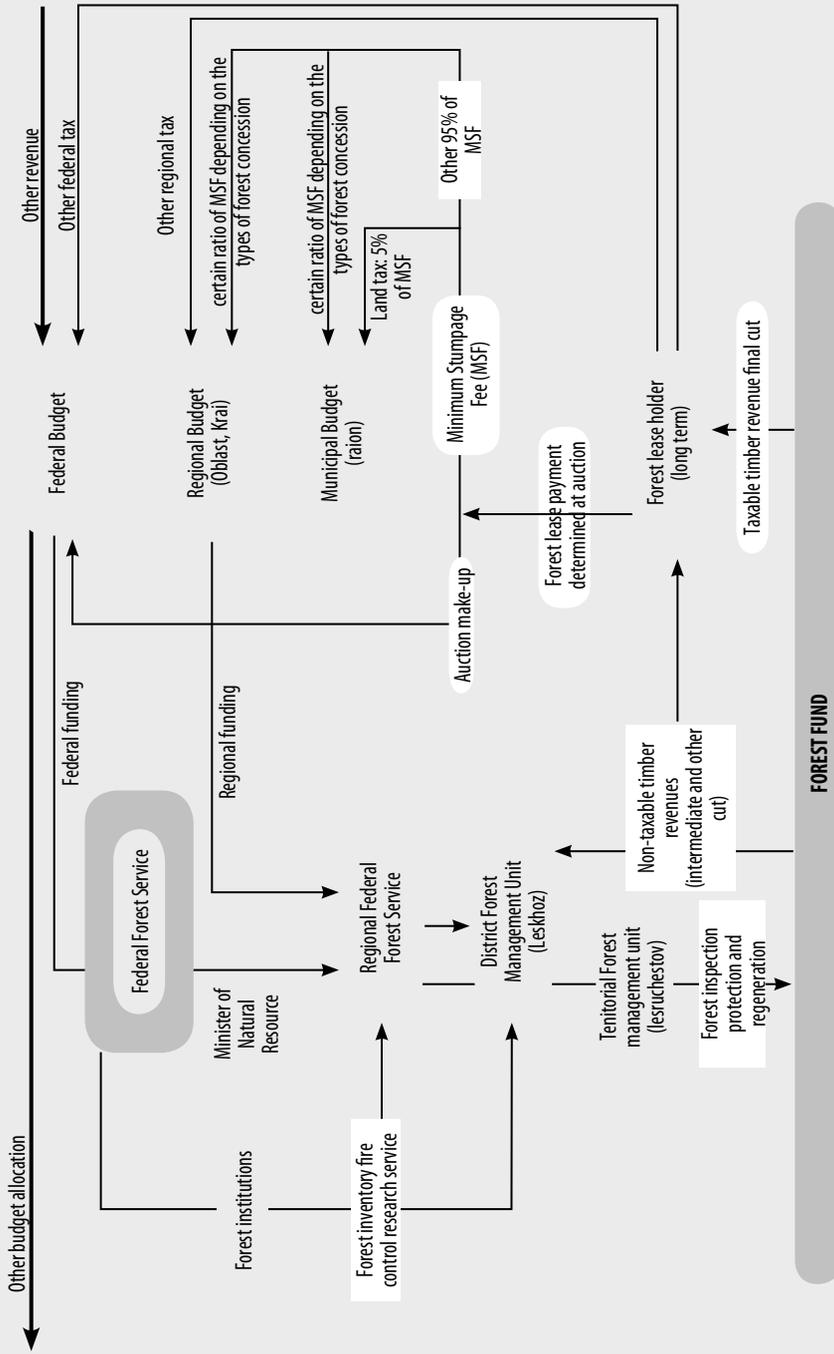
In 2002, the system for allocating forest payments was modified. Ninety-five per cent of the minimum stumpage fee was divided between the provincial and municipal administration budget accounts. The auction-up part was allocated from the *leskhoz*es to the federal budget account. The activities of the entire Forest Service system were now financed jointly by federal and provincial administration funds. As a result, neither the provincial administration nor the *leskhoz* have any incentives to raise the tax rate applied to auctions. Figure 3 illustrates this adjustment of fund allocation.

3.5 Unsustainable forest management practices

Russian forests suffer from serious threats associated with unsustainable forest management practices and every year millions of hectares of forest are damaged by fire, insects and disease. In one third of *leskhoz*es, forest management and wood harvesting are conducted without proper forest management planning (Dahov 2000). Clear-cutting is the common forest harvesting practice in Russia's coniferous forests. A fifty metre buffer zone is left between two cutting strips and after harvesting most of the land is left for the regeneration of natural forests. As this form of intensive clear-cutting is implemented on a massive scale, the actual harvesting volumes may be many times more than the volume stated in the forest management plan. In 2004, clear cutting was responsi-

10. *Perestroika* is the term for the economic reforms introduced in June 1985 by the Soviet leader Mikhail Gorbachev. Its literal meaning is "restructuring".

FIGURE 3 Flow of funds in Russian forest sector



Source: Modified by the author based on World Bank (1997).

ble for 80% of the total felled timber and 11.9% of timber harvested from the Group I forest in Irkutsky *Oblast* (Kotlobai et al. 2006). Reforestation by planting in Russia is limited. Almost all the harvested forest lands have been left to reforest naturally.

A high level of waste is observed in timber production. According to the administration of Primorsky *Krai*, in a productive forest parcel trees with a large diameter and a long trunk that can provide valuable lumber make up only 35% of the total standing stock volume, yet 60% of logs sold in the timber market are large in diameter (APK 2005). All trees with diameters larger than 16 cm should be harvested under the conditions of clear cutting. These figures indicate that the market preference for large diameter logs is resulting in significant wastage. The top part of larger trees might also be left behind at the logging site due to the weak demand for small diameter logs in the major timber markets in Japan, China and Korea. Often, in order to prevent forest fires this “waste” wood will be intentionally burnt.¹¹ The Primorsky *Krai* government estimates that annually more than 2.5 million m³ of merchantable logs are discarded in the logging sites (APK 2005).

3.6 Extent of illegal logging

Officials of the Ministry of Natural Resource and the Bureau of Forest Management provide relatively low estimates for the extent of illegal logging in Russia of about 5-10% of total harvesting. However, Sheingauz (2004) estimates illegal logging in the RFE at 50-70%. The Russian government argues that environmental organisations produce higher estimates because they employ a wider interpretation of illegal

logging (Bolshakov 2004). Lankin (2005) points out that the illegal logging rates in the RFE are highest in regions that are close to the Chinese border.

The government agencies use the existing Russian legislation to define illegal logging to include:

- Logging without the appropriate documentation, including theft;
- Logging with documentation, but in violation of regulations such as logging beyond the allowed logging areas and above the permitted volumes;
- Logging within the permitted volumes but using methods that violate regulations;
- Violating concession terms, such as logging outside of the scheduled time frame or logging of species protected by law;
- Inaccurate calculation of forest resources by the authorised government agencies;
- Overstating the allowable cutting amounts in felling tickets (Ibid.).

A survey conducted by Alexey Morozov clasifies illegal forest felling activities in Russia into cutting without permits, or unsanctioned activities, and “licensed” but illegal forest felling operations (Morozov 2000). Morozov found that cutting without permits is often undertaken by local residents for personal needs who either have no alternative because of their poverty or find the procurement of official papers to be too troublesome. He also found cutting by residents and mobile teams for subsequent sale to be the most typical variant of cutting without permits for the logging of large diameter, valuable wood. He noted that the teams are very organised, have good connections with the authorities of different levels and that many are “protected” by, or are profitable to, criminal groups. Yet another variant of cutting without permits

11. Interview with a state-owned forest enterprise manager.

identified by Morozov involves companies operating near officially developed sites or in the distant areas that are seldom visited by supervision agencies.

Morozov noted the following five variations of “licensed” but illegal forest felling operations:

- Issuing permits for felling in areas where felling is prohibited or not envisioned;
- Violations of the procedure for permit issuance, or without assessment of actual legal logging capacity;
- Entering deliberate amendments into forest management documentation, including formally allowing cuttings otherwise prohibited;
- Intentional mistakes in conducting forest inventory;
- Forest cuttings carried out in violation of legislation (Morozov 2000).

3.7 Summary

Because of low public investment, the forest industry in the REF and Siberia has relied mainly on foreign capital, which is mostly directed towards logging. Funding for forest administration was created by introducing

charges for forest use rights. Government revenues from forest use are now realised through various forms of leases. The system of forest payment allocation among the different administrative levels was adjusted in 2002. This adjustment has reduced the preference of *leskhoz*es for short-term forest use leases and has indirectly resulted in a lower tax rate due to the loss of government incentives at the local level. With the administrative decentralisation in the Russian forest sector, the provincial governments have been endowed with greater forest management responsibilities and decision making power. Regardless of these reforms in administration and financial allocations, forest communities in fifteen years of reforms received no state support to recreate traditional hunting and non-timber harvesting activities as alternatives to exhaustive logging (Anatoly Lebedev, pers. comm., 2007). Out of necessity they resort to timber fees, taxes and bribes for their subsistence, rather than give up profits to the state and regional budgets (Ibid.). Thus Russia’s forests continue to be exploited in an unsustainable manner because of poor management that, *inter alia*, results in a high level of waste. Illegal logging has become a serious challenge for the Russian administration.

4

CHINESE ACTORS IN THE COMMODITY CHAIN

Chinese merchants have successfully entered most steps of the separate phases of the commodity chain in Russia. Their involvement has improved efficiency of this chain, but this entrance into the commodity chain on the Russian side of the border has also increased the avenues by which Chinese merchants may intentionally or inadvertently be involved in forest crime.

From the harvesting site to the border checkpoints, Russian timber exported to China is supposed to pass through three main phases: 1) harvesting, 2) preparing timber for export (sorting and piling) or processing, and 3) customs clearance and transport abroad. Table 6 summarises these phases and identifies the actors involved in each phase.

4.1 Harvesting/logging phase

4.1.1 Obtaining forest concessions

After foreign companies were allowed to manage logging operations in Russia, Chinese logging firms have shown a high degree of competitiveness in taking advantage of the opportunities offered. The scale and production capacity of Chinese logging firms in the RFE vary greatly. Their number of crew members

ranges from 30-500 and their harvesting capacity varies from several thousand to hundreds of thousands of cubic metres.¹² Most of the Chinese logging operations can be categorised as small and medium sized enterprises with 30-100 employees.¹³

According to Anatoly Lebedev (pers. comm. 2007), specifically in the south of the Far East, mainly in the Primorsky and Khabarovsk Krai, Chinese timber operators initially came as traders and targeted the most valuable hardwood species and Korean pine. During the last 5-7 years they created a large network of small sawmills in all the forest settlements to hide illegal timber inside consumer goods consignments. They developed friendly relations with local officials and their Russian business partners and began to apply for forest leases only in more recent years.

Despite that many Chinese firms are able to obtain long-term concessions as commercial harvesters, the number of large operators is limited. According to a Chinese manager who successfully set up a logging company in Amursky Oblast from 2000, in Heilongjiang Province there are only four large logging companies whose annual logging reaches or exceeds 100,000 m³.¹⁴

12. Interview with the manager of a private logging company.

13. Ibid.

14. Interview with the manager. As there are no official statistics describing the operations of Chinese logging companies in Russia, it is difficult to verify the figure's accuracy.

Table 6 Commodity chain of timber exported from Russia to China

Phases	Steps	Phase description	Executors	Supervisory agencies
Harvesting/ Logging	1	Application for commercial (long term) or non commercial (short-term or one time lease) forest concessions, participation in competition or auction	Logging firms or organisations receiving budgetary support from local funds	Provincial forest management committee, <i>leskhoz</i>
	2	Creation of a forest use project (logging or business plan), based upon the forest inventory for the <i>leskhoz</i>	Logging firm	Forest management agency
	3	Field allocation of cutting areas, stumpage fee payment, obtaining of permit documents, preparation of cutting areas, camp establishment, skidder/harvester route clearing	Logger's representatives, auxiliary crew	<i>leskhoz</i>
	4	Felling operations, cutting tree trunks into logs, moving timber to forest depot	Felling crew of logger	<i>leskhoz</i>
	5	Cutting tree trunks into logs in the case of removal of trunks from cutting area as a whole, loading on timber trucks	Timber depot crew of loggers	Internal supervision of loggers
	6	Transportation from forest depot to commercial log depot or buyers for processing	Logger's transport division or hired transport firm	Traffic police
Sorting, Piling, Processing	7-1	Log handling, sorting and piling, loading onto vehicles/ships	Logger's depot division intermediary with commercial timber depot	Internal supervision of commercial timber depot
	7-2	Primarily processing	Processing mill	Internal supervision of sawmills
Exporting	8	Transportation to customs	Logger's transport division or hired transport firms	Railway bureau or traffic police
	9	Customs clearance	Loggers export division, export agents	Customs
	10	Transportation to Chinese importer	Logger's transport division or authorised transport firm	Customs

Source: Sheingauz, Lebedev and Antonova (2005).

Most Chinese logging companies operating in Russia prefer registering as a sole proprietorship and applying for land tenure directly because they have found that it is difficult to guarantee that no property and debt entanglements remain when renting a forest parcel under a sublease contract from an existing Russian commercial lease owner. A number of small and medium sized logging firms do not have permanent timber producing bases, but rather short-term or one-time use leases obtained through auction. Quite often they buy forest

stands from commercial lease owners or owners of "social limit" and then log by themselves. The difficulties of obtaining long-term leases for small and medium logging firms are many.

First, forests in the relatively productive regions of Irkutsky *Oblast* and Khabarovskiy and Primorsky *Krais* are fairly devastated. The most productive and accessible forest has disappeared or was degraded through large-scale industrial exploitation during the Soviet Era (Tracy 1994). The logging frontier has extended

to the remote and often high conservation value forest area that lacks transportation infrastructure. Commercial forest lease-holders are obliged to finance and construct their own roads. Difficulties in obtaining equipment and fuel, the cost of labour and large infrastructure investment have been disincentives for small logging firms.

Second, the application procedure is complicated. Before participating in the competition process, applicants must work with the *leskhoz* to prepare the joint application documents which should be supported by the *raion* administration and then submitted to the provincial forest committee. Among the application documents, a business plan designed by the authorised planning institute is necessary. The business plan costs at least 500,000 rubles (about 17,000 USD), which many small companies cannot afford.

Third, as mentioned above, the provincial administration enjoys a high degree of autonomy in deciding forest allocation. In some areas a small number of provincial high-ranking government officials control all resource allocation decisions, either officially or unofficially. Their decisions are likely to favour local forestry enterprises that were established before *perestroika*, as they are usually totally responsible for maintaining the infrastructure of the forest settlements, and as “considerable parts of the companies’ stocks have fallen into the pockets of local entrepreneurs or political elites” (Karnauchov et al. 2005). Generally, Chinese firms must pay a higher price than their Russian competitors for obtaining long-term lease rights over similar forest parcels.

Avoiding long-term lease, however, does not improve the survival prospects of small logging

companies. Due to the unstable economic situation and unpredictable tax burden - labour, value-added, export and community support (e.g., hospitals and schools) - small logging companies are vulnerable to collapse and their average lifespan is only two years.¹⁵ A lack of management skills and knowledge of Russian forestry policy may be another reason for the failure of these small companies. Their short lifespan cannot be explained by their adopting a “hit-and-run” strategy. If this was their objective, choosing to be a trader is more sensible as it would avoid incurring the fixed cost of a logging operation. Moreover, it is common for even large companies to operate at a loss in their first years in this business.

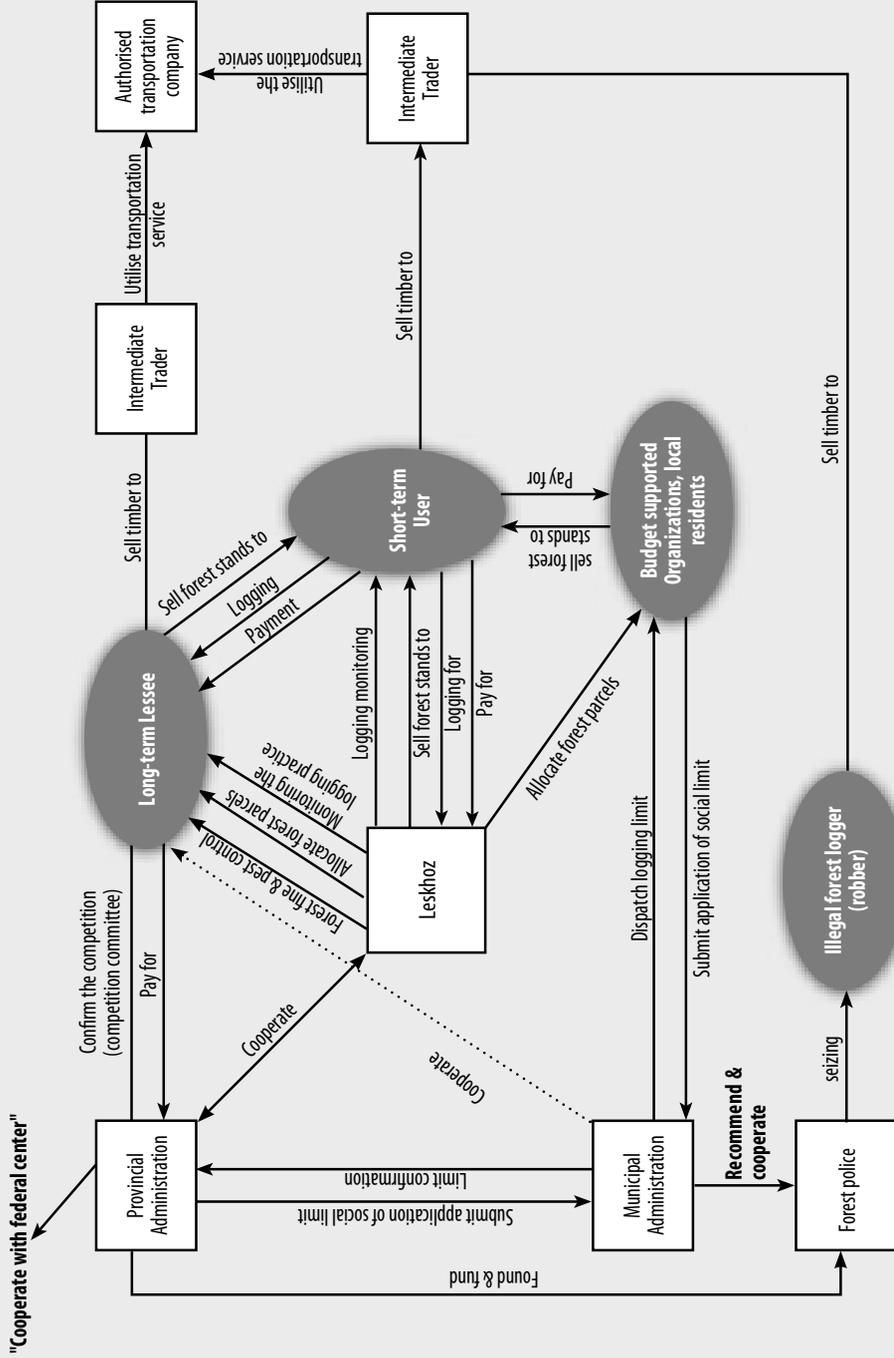
4.1.2 *The role of leskhoz*s in the allocation of logging areas

A Chinese company wishing to establish a logging operation in Russia must contact the local *leskhoz*. An informal connection among forest users and *leskhoz*s may exist. Figure 4 illustrates the relations among the stakeholders involved in the Russian forest sector, including illegal loggers.

Representing the state as the forest owner, *leskhoz*s once stood in the centre of the stakeholder network of the Russian forest sector. Their abuse of authority was prevalent. However, limits have gradually been placed on their functions and powers. For instance, their right of collecting funds directly from allotting forest parcels was practically lost. After the Federal Forest Service appointed for each of them a specific bank account, the *leskhoz*s merely received a fixed amount of funding from the federal budget. Due to substantial fund shortages, in many forest rich *raions* *leskhoz*s discovered various ways to earn additional revenue by accepting bribes for intermediate or

15. Interview with the manager of a private logging company.

FIGURE 4 Stakeholder network of the Russian forest sector



Source: Karnaukhov et al. (2005).

maintenance logging, often in restricted zones (Anatoly Lebedev, pers. comm., 2007).

As a regulative unit at the district level, the *leskhoz* is responsible for the proper allocation of felling sites, including correct document completion, accurate assessment of economic value and production planning. However, if any behind-the-scenes bargaining between *leskhoz*es and forest users takes place, these tasks may be transferred to the forest users. In practice, the forest user takes the initiative in selecting forest parcels and then the *leskhoz* compiles primary information and prepares the documents for either jointly applying with the forest user for the competition procedure or for proceeding with the auction procedure.¹⁶

Forest users may also be informed by the *leskhoz* of the availability of forest parcels without participating in the auction. Usually, such parcels are free of charge for the local public organisations financed by local government, such as schools, hospitals, militia, court departments or local residents, under the label of “social limits”. Due to their inability to conduct a logging operation, these organisations usually resell the concession to a logging company for a negotiated price.

The *leskhoz* is entitled to conduct silvicultural operations such as intermediate cutting and forest regeneration. Therefore, the *leskhoz* may allocate forest parcels for one-time use under the label of intermediary or maintenance logging. Through these means, not only is the

harvested timber free of taxes, but also valuable species for which commercial logging is prohibited, or, for which the harvesting volume is restricted, are able to enter the market with their origin legally verified. The poor administrative capacity at district *leskhoz* level has been widely criticised and as a result the name “*leskhoz*” does not appear in the 2007 Forest Code.

4.1.3 At the logging site

Chinese logging companies prefer hiring felling crews from the state-owned forest enterprises (SOFEs) in northeastern provinces in China because they have the necessary practical skills and the experience of working in the severe weather conditions experienced during the Russian winters.¹⁷

Typically, one Chinese logging crew consists of 4-6 people: one logger, one cross cutter, one or two skidder operators, and one forklift loader operator. The crew is responsible for the tasks of felling, cutting tree trunks into logs and for moving timber to the forest depot. The payment is crew-based: one crew receives about 7-10 USD/m³, which is an incentive for crews to log as much as possible. In contrast, Russian workers are paid monthly under a minimum wage law. This difference in payment structures, combined with the fact that Chinese workers may agree to work overtime to earn more money, has meant that they are considered cheaper and more efficient. By contrast, Chinese logging operators find Russian workers less attractive as employees, because they consider them more likely to be drunk at work.

16. The *leskhoz* represents the federal forest administration in signing the lease contract with the successful applicant of the competition or auction and issues the felling ticket (*lesorubochnye biletty*), granting a forest user the right to harvest and remove timber within a specified area and volume. With the disappearance of *leskhoz*es, the felling ticket also disappeared under the new Forest Code, but there have been no new regulations detailing what kind of document will substitute for the function of the felling ticket. Therefore, the felling ticket will continue to be utilised as the only officially approved document confirming the lessee’s right to use the forest parcel and the legality of timber origin, at least until the end of 2008.

17. In the northern temperate zone, winter logging is preferable because the hard frozen ground makes it easier for timber delivery than in the muddy spring.

The logging operations are monitored and supervised by the *leskhoz* forest officers to determine whether they match the areas that are intended for logging, there is illegal logging beyond the established territories, prohibited species are cut or more undergrowth is damaged than permitted, and whether the logging site is cleared. If the terms stipulated in the forest felling ticket are violated, a fine should be imposed.

In general, forest officers possess much flexibility in determining the degree of violation. Forest officers may either choose to enforce regulations strictly or to let violations pass without formal action. If the violation is not considered severe, then much depends on how the officer reports the violation. If the violation is considered unacceptable, then the leaseholder may attempt to negotiate with the forest officers to escape sanction or fines.

In some provinces forest police have been established in an attempt to combat forest regulation violations and crimes. However, the effectiveness of the forest police is restricted by their lack of technical equipment, enforcement capacity, personnel and information. Officially, the forest police are subordinated directly to the Ministry of Internal Affairs, but are independent from any level of administration. The forest police are mainly the residents of forest villages and, voluntarily or not, they are involved in the net of informal connections amongst local residents, which results in their inability to effectively combat illegal logging.

Although some kind of informal relationship does exist among the lease holders and the inspectors, according to the respondents surveyed for this study, due to the high costs of criminal conviction Chinese logging companies typically will not undertake illegal logging, at least in terms of logging without a felling ticket

or beyond the designated areas, or cutting species not allocated under the felling ticket.

4.1.4 *Chinese state-owned forest enterprises as the main source of labour*

Because they possess technical and management strengths for organising forest-related production, SOFEs are considered by the Chinese and Russian governments to be appropriate for promoting China-Russia cooperation in jointly exploiting forests. The expansion of the China-Russia timber trade could also provide opportunities for the Chinese SOFEs to partly solve the severe unemployment problem caused by the logging ban policy imposed by China under its Natural Forest Protection Programme.

Chinese SOFEs first entered Russian forestry in 1989 when the two countries signed a bilateral agreement on sending Chinese workers to Russia to supplement the Russian labour force in the RFE, which had decreased because of high mortality and low birth rates and an outflow of labour. However, many forestry projects undertaken by the Chinese SOFEs acting as independent investors failed, because, in general, they were short of funds, unfamiliar with the market mechanism and lacked experienced in international collaboration.

As a result, the actual function of the SOFEs has been limited to labour supply for the private logging and processing companies. In 2004, there were 1,500 workers from the Heilongjiang Forest Industry Group alone officially registered as working in Russia. One SOFE manager interviewed in September 2006 estimated that there are roughly as many as 50,000 SOFE workers employed in the timber trade in logging and processing enterprises in the China-Russia border area.

BOX 1: Example of a small Chinese logging company operating in Russia

Before entering the forestry sector in Russia, small Chinese companies were engaged in the import and export trade between China and Russia, through which they accumulated experience in conducting business with their Russian partners. Some began to devote themselves to the wood business, in which they invested the capital they had accumulated through border trade, after favourable forestry-related policies were introduced. However, suffering from insufficient capital accumulation and a lack of experience in forest management, these companies were confronted with difficulties in organising large scale production and market development.

Mr. Z is originally from Beijing.¹⁸ For more than ten years he worked as a fruit dealer in Russia before he invested 250,000 USD to set up his small logging firm that operates in Irkutsky *Oblast*. Mr. Z is very proficient in Russian and is experienced in doing business in Russia. He quickly established a good personal relationship with the vice director of the local *leskhoz*. Through him Mr. Z obtained a one-year lease contract with an allowable cutting volume of 5,000 m³ at a very cheap price. Mr. Z purchased logging equipment locally and hired Russian workers for the first year of operation. Due to communication difficulties and different working methods between the Russian employees and Chinese managers, the production did not proceed smoothly. Although the final output was much lower than Mr. Z's expectation, he familiarised himself with the procedure of timber production during this period.

In the following year, Mr. Z purchased another forest parcel from a district hospital following the instruction of the *leskhoz* officer. To avoid making the same mistakes as in the previous year, Mr. Z hired a five-person working crew from the Chinese SOFes. However, due to his inexperience Mr. Z did not examine their skills before sending them to Russia. The production again appeared wasteful and inefficient, and the crew members did not work well together. The total output of logs was merely 2,000 m³. Finally, Mr. Z's insufficient investment could not sustain the company's operation and he had to close down his logging company and return to the business he is familiar with.

Source: Based on interview in October 2006.

In Primorsky *Krai*, where hardwood processing became very attractive, Chinese timber dealers use labour import quotas received by the local Russian farmers. Through municipal officials in Dalnerechenski *Raion*, Chinese timber dealers persuade farmers to change their plans and begin processing of hardwood, collecting it from small, mainly illegal brigades around the farm area (Anatoly Lebedev, pers. comm., 2007).

4.2 Transportation from the forest depot to the commercial log depot

The largest logging companies have transportation divisions, but most small and medium logging companies entrust Russian local trans-

portation firms to deliver timber to the commercial log depot, which is typically 150-200 km from the logging site. The formal transportation firms have been challenged a great deal by local residents who own two or three trucks and work with flexible timetables. Clients will roughly be charged 0.1 USD/km for informally transporting one cubic metre of wood through negotiation with the truck driver.

On the way to the commercial log depot, traffic police may stop the trucks at checkpoints to inspect the legality of the timber (Figure 5). The traffic police may request to view documents such as a copy of the felling ticket with the hologram and the seal of the *leskhoz*, a driver's license, and a specification-waybill with the

18. The actual names of interviewees are not used to maintain their confidentiality.

FIGURE 5 Road checkpoint (cabin on left) - Primorsky Krai, Feb. 2007



details on timber legally available for this specific truck. The inspectors may contact the *leskhoz* to confirm the consistency of the load with the documentation. This inspection process is not particularly reliable because repetitive use of felling tickets and other documents is common, checkpoint officers can be bribed and there is common knowledge of the size of bribes required, and because of poor communications in some remote *leskhoz*es. Hence, trucks carrying illegal timber may pass through checkpoints easily, with a loss of about 5-10% of the gross price of the transported timber.¹⁹

4.3 Sorting, piling and processing phase

Activities in this phase take place inside the commercial timber depots that belong to local authorised export companies and are equipped with loading facilities and terminals connected

with railway and highway, or are located in sea or river ports. Figure 6 shows a depot in Primorsky Krai that belongs to a local authorised export company. Unauthorised entrance is prohibited. After being sorted and piled, timber is loaded into wagons (or containers), sealed by customs and readied for export.²⁰

The export companies also provide an agent service for the small logging operators that lack export infrastructure. The service is very expensive. To export one wagon containing 75 m³ of logs to China,²¹ the client will be charged an agent service fee of about 2,000 USD and 260 USD for loading and packing, respectively.

4.3.1 Role of the Chinese intermediary

Large Chinese intermediary traders consider the sorting and piling phases crucial. For them, having terminals in the commercial log depot will improve their capacity to deal with price fluctuations. The log price of each species in

19. The discussion in this paragraph was supplemented with information provided to the author by Anatoly Lebedev in his comments on an earlier draft.

20. Customs clearance will be explained in the section on the exporting phase.

21. Normally, the load capacity of one standard open wagon is about 60 m³. However, in order to offset the expensive transportation fee, overloading by the exporters is prevalent.

China border cities changes each day according to the volumes that arrive. Owning a terminal gives intermediaries great flexibility to take advantage of these price fluctuations. If, for example, the log price of a particular species they hold rises, they can quickly arrange transportation. Conversely, if the price falls, they can postpone delivery. Intermediaries without terminals have to deliver logs on a predetermined date regardless of the price. The sorting and piling phases are also where laundering of illegally-sourced timber usually occurs.

Chinese intermediaries generally rent one or several railway terminal lines from the Russian commercial depot owner and wait for small Russian logging operators to arrive to sell their timber. This has modified the trade chain from one in which small companies used to purchase the logs at the logging sites or in the open markets where trucks delivered the timber.

Their powerful purchasing capacity enables these large intermediaries to be dominant and competitive in pricing the timber. Renting the

railway terminals is also advantageous as it ties them into the railway agencies and export companies, which guarantees that the timber will be shipped promptly. Volumes imported recently suggest that the market price of timber in the Chinese border cities constantly fluctuates, but the ability of the large intermediaries to accumulate large volumes of stock should enable them to delay exports as necessary to resist downward price fluctuations. This transformation in the product chain has advanced to the point where in Primorsky Krai alone Chinese intermediaries control the wholesale timber yards in Luchegorsk, Dalnerechensk, Lesozavodsk, Ussurisk and other *raions*. If there are several powerful intermediaries in the same area, the market influence of any one intermediary is rather limited. Competition is extremely intense in such cases and sometimes has resulted in violence.

The growing role of the Chinese intermediaries has caused anxiety among local residents, as is evidenced by critical reports found in the local media. In contrast, the Russian entrepreneurs trading with the Chinese intermediaries have

FIGURE 6 Commercial timber depot equipped with loading facilities and terminals connected with railway - Primorsky Krai, Feb. 2007



not been so critical, though they may complain that the intermediaries apply Chinese practices and only select logs of higher quality and offer prices as low as possible.

Initially, the intermediaries simply bought timber from the loggers and asked the local companies that owned the depot and railways to handle the transport and customs clearance. As they found that the transactions between them and the local companies were very unstable, they began to rent the depots. In other words, they integrated the loading and delivering into their business operations. There are positive aspects to this transformation in the product chain in that by taking advantage of the capital and the channels of sale in China's timber market, the Chinese intermediaries "can play a positive market role by aggregating lots and assortment, and linking exporters to buyers" (Lankin 2005).

However, the intermediaries may also be tempted to accept illegal timber as they depend on quick financial turnovers. Typically, the price of illegally sourced timber is lower than that of legal timber and intermediaries may be tempted to accept illegal timber in order to increase profits when the risk of detection is low.

In Russia, illegal logs are figuratively categorised as "pure black" (i.e., timber logged without any authorised documents) and "grey" (i.e., timber formally legal, but doubt exists over the process of document acquisition). Legally, all sold timber should be accompanied by a copy of the felling ticket as verification of legality. However, the intermediaries seldom insist upon consistency between the actual timber supplied and the accompanying documentation when they take possession of the timber. It is practically impossible for the inspectors to distinguish between timber of different origins within the

commercial log depots where thousands of cubic metres of timber may be accumulated, sorted and re-stacked into piles. By this means intermediaries become the last node along the chain of illegal logging as there is no requirement to submit the felling ticket when the logs pass through customs inspection. Once through customs, both legal and illegal timber will circulate in a relatively "white" legal form.

4.3.2 Differences between large and small timber intermediaries

The representatives of China's larger intermediaries are merchants from the Putian area of Fujian Province. Putian is not viewed as China's traditional timber consuming and producing area. However, it is renowned as the base of private timber dealers. Since China established its market economy and opened up the domestic timber trading market, Putian timber dealers have been active in major timber producing areas in northeastern and southwestern China. They have developed a network of sales and control 70% of China's domestic timber trade. In China's border cities, most of the imported Russian timber is purchased by Putian merchants and distributed through their networks.

Rather than directly participating in the company's operation, Putian merchants hire experts in Russian affairs to deal with local agencies and to manage the company. With significant finances, the powerful intermediaries are able to rent commercial timber depots and purchase large volumes of timber.

Through the survey, the author found that small timber intermediary companies are characterised by limited capital, high mobility, and little knowledge about modern international trade. Therefore, it is difficult to say that they will necessarily respect the legal and regulatory systems of other countries. Their existence

FIGURE 7 A local logging company operating in a remote mountain area - Primorsky Krai, Feb. 2007



heavily depends on various supplementary agent services that have emerged in the border area. Generally, small intermediaries have no timber storage facilities. They buy timber directly from logging companies with cash and rely on the agent companies to handle transportation, export, import and customs declaration matters. As they focus on short-term monetary gain, their activities might be closely related to the illegal timber trade in terms of purchasing timber of suspect origin and using fake documents during customs inspection. Buyers from China purchase timber directly from the logging company shown in Figure 7 and handle transportation, delivery, processing and customs clearance.

4.3.3 Processing phase

Chinese investment in the Russian wood processing industry has witnessed an upward trend. According to statistics of the Chinese Ministry of Commerce, by 2005 fifty-eight forest projects with a total investment of 421 million USD had been officially registered with China's

administrative agencies (International Business Opportunity Daily 2006), although the number of mills financed and managed by Chinese citizens may be higher than those registered. The wood processing capacity of Chinese enterprises in Russia has reached 2.26 million m³ (Ibid.).

In part, these changes are responses to the adjustment of the Russian export tax on logs,²² which makes the trade of processed wood products more profitable and less complicated than that of logs. According to existing Russian customs regulation, processed wood products exports do not require proof of the felling ticket to clear customs. The tendency for more small sawmills to be established suggests the likelihood that traders are intentionally entering illegally sourced logs into the trade chain by processing them into lumber.

Logging companies or intermediary traders build most of the Chinese processing mills in Russia in order to extend their business scope. Some are the

22. See section 4.5.2 for analysis of the influence of the tax policy on the China-Russia border timber trade.

Box 2: Case study of a Chinese intermediary company

Company E has been in existence for nine years, throughout which it has been engaged in the timber trade. Its head office is located in Suifenhe. The company has two foreign branches in Primorsky and Khabarovsk *Krais* and two domestic processing mills in Suifenhe and Dalian. The Russian branches serve as the raw material base for the processing in China. The branch in Primorsky *Krai* exports about 100,000 thousand m³ of forest products to China annually. Roundwood and sawnwood each account for about half of the exports. Generally, the company purchases ash and oak²³ directly from the local logging companies and *leskhoz*s, but recently it began to conduct its own logging operation. According to Anatoly Lebedev, chairman of the Bureau for Regional Outreach Campaigns (BROC), an environmental NGO active in Primorsky *Krai*, in 2007 the company became one of seventeen companies authorised by the Administration of Primorsky *Krai* to harvest 3,000 m³ of timber in protected zones under the label of forest tending. This decision of the *krai* administration has provoked anxiousness among the local environmental NGOs.

The company rents railway terminals and a customs controlled commercial timber depot in Dalinerechenck *Raion*. The total storage area is 20,000 square metres. Currently, seventy Chinese employees, most of whom are loggers and sawmill workers, are hired by the branch in Dalinerechenck. Those who can speak Russian may work as timber buyers and liaise between the logging companies and the *leskhoz*s. The company also hires one Russian general director and roughly thirty local Russians for supplementary work.

There are two routes for the company to deliver the roundwood they purchased in Russia to China. One is shipping from the Olga seaport to Dalian and the other is loading the timber in the depot and transporting by train through Suifenhe. The imported roundwood in Suifenhe will be either sold directly or transported to Dalian for further processing.

The company has installed six sawing lines in Dalinerechenck *Raion*. Two are located within the depot zone and the other four are in the mountain area. The annual production of sawnwood is about 50,000 m³. In Russia the roundwood will be sawn into strips and shipped by rail to Suifenhe. Compared with roundwood, it takes the company more time to recuperate its investment in sawnwood.

Reflecting the ever-tightening immigration control policy of Russia, the company is encountering difficulties in obtaining further working permits for its Chinese employees. Moreover, the cost for hiring Chinese labour has increased gradually. In addition to paying monthly salaries of on average 400 USD, the company must spend annually about 1,000 USD per Chinese worker for a working visa application, transportation, food, dormitory accommodation and a physical examination.

As for the new Russian tax policy on roundwood exports, the company manager treats this quietly. He believes that since demand for wood in China continues to grow, although the import cost will be higher under the new policy, the sale price will increase. He believes that the wood trade will continue to be profitable for the company. For its long-term development, the company plans to enhance the processing capabilities and product variety of its Russian mills. Due to the unstable political environment in Russia, the company manager is concerned that the company will not be able to withdraw its investment promptly if a policy change makes this desirable. Because of this, the company has temporarily withheld extending its investment in processing in Russia.

Source: Based on interview in February 2007.

23. The ratio of ash to oak is 3:7.

Figure 8 A mill for primary wood processing owned and run by a Chinese company in Russia - Primorsky Krai, Feb. 2007



foreign branches of the wood processing enterprises located in the Chinese border cities. While still in the start-up phase, these mills focus their operation on processed primary forest products, the majority of which are lumber and veneer. Figure 8 provides an example of such a mill.

Chinese merchants seldom invest in a currently operating Russian wood product manufacturing plant. They prefer to invest in newly built mills, though they may invest jointly with their Russian partners. In the latter case, the Chinese merchant is usually responsible for the operating capital, facilities and management, while their Russian partner is responsible for the workshop, material purchase and dealing with various local agencies. Generally, the wood products from mills will be delivered to China. The lack of financing, professional and technical employees and a general shortage of labour has hampered the further creation of mills. One reason for the labour shortage is the complicated and rigorous immigration policy of Russia, which has prevented sawmills from hiring Chinese SOFE workers as needed by the mills.

4.4 Exporting/importing phase

4.4.1 Exporting phase

Customs clearance of the timber usually takes place at either the export sites near the borders or at those commercial depots that are located deep in hinterland regions. In the latter case, the exported timber is transported by authorised companies through the Russian territory to the border in containers/wagons sealed by customs.

Customs act as the final government body for verifying timber legality. According to the Customs Code of the Russia Federation as operable in 2004, the timber dispatched from the loading sites has to be supplied with a minimum set of documents, which includes the customs declaration, the invoice indicating the timber buyer, a copy of the contract and verification of the legality of the timber purchase by the traffic police (Alyoshina, Ognevskii and Yeroshkina 2004; Anatoly Lebedev, pers. comm., 2007). This enabled a mutual check mechanism among customs, the Ministry of Inner Affairs,

traffic police and *leskhozes* of the consistency between the declared timber and the original documents. The export license and the contract with the Chinese counterpart have replaced the former set of documents. This simplification has made it possible for illegal timber to be exported using fake documents. Other practices for “legalising” timber through customs are:

- Undervaluing export prices and volumes in the “official” contracts to hide profit - additional money may then be paid by the customer in cash or remitted to a secret account;
- Documenting export through short-lived companies, or, export using faked documents;
- Under-declaring wood volume and value by bribing customs officers;
- Smuggling (illegal export without documents) (WWF 2002, 2003).

Despite the fact that transport companies are not involved directly in the timber business, their role cannot be neglected given that they are monopolistic in providing cross border transportation. The depot owners must maintain close relationships with the transport companies and follow the rules dictated by them for wagons to be shipped out on time. Often, the commercial depots do come with the background of transport companies. This gives them advantages in acting as exporters and providing the agent services relating to transportation and customs clearance.

4.4.2 *Importing phase*

Importers act as the intermediaries for the Chinese domestic buyers. Their Russian trade partners are often well-equipped, large timber

producing companies that are registered as exporters and have all the required licenses issued by the Russian Ministry of Economic Development and Trade. The Russian exporter delivers the cargo to the destination prescribed by the contract.

Chinese importers used to enjoy a 5% profit margin generated by the difference of measuring standards between the two countries.²⁴ This explains why the unit sale price in China’s border cities was the same as the timber purchasing price in Russia. Along with the trade flow becoming more transparent and the increasing number of Chinese intermediaries exporting timber directly from Russia, this “spill over” profit was eliminated. If importers question the quantities and qualities of the received cargoes, the official document issued by the Chinese Administration of Quality Supervision, Inspection and Quarantine will be used to judge the discord.

Russia’s ever-restrictive log export policies confront Chinese companies only importing timber with a resource shortage and their profits are diminishing. A manager of a timber import company stated that “The trade has become more difficult than several years ago. . . . Our company earns less than 3 USD from importing one cubic metre of logs. . . . We have to go to Russia and purchase the timber directly from the logging companies in order to reduce the import cost and pick up desirable grades of timber.”²⁵ To some degree this may explain the phenomenon of more Chinese dealers appearing in the Russian local timber markets. Given the above mentioned shortcomings of effective supply chain control from the harvesting to export phase, the Chinese traders increasingly appearing in the Russian local timber markets

24. Logs exported from Russia are measured according to GOST 2078-75, in which the tables of volume estimation differ from that of China’s standard. Usually, the GOST scale exceeds the scale used by China by a few percent.

25. Interview, September 2006.

presently have no means to verify that the logs they buy were legally harvested. Therefore, there is a substantial risk that many end up buying illegal logs, the more so since these logs tend to be cheaper.

4.5 Timber processing industry in Northeast China

4.5.1 Development of the timber processing industry

The activity of the timber trade has accelerated the development of the timber processing industry in the Chinese border provinces. The private sector processing mills have not only replaced state-owned timber processing factories in formerly forested areas, they have also emerged along the China-Russian border and then extended into the neighbouring districts. An example of such a factory that supplies products mainly to Western markets can be seen in Figure 9.

In recent years, in the three major timber import cities of Suifenhe, Manzhouli and Erlianhot, this model of private local wood processing industry has been promoted by attracting external investment through offering preferential tax treatment policies and through infrastructure construction (Yamane 2005). These policies have been effective. In Suifenhe and its neighbouring city, Dongning, 530 processing mills employing nearly 300,000 staff have been set up. Their annual processing capacity is three million m³, which accounts roughly for one third of the imported logs.²⁶ The timber utilisation is very efficient as the waste and leftover material, including chips, are purchased by the small mills for further processing.²⁷ The manufacturing mills have installed imported production lines that produce finished or semi-finished forest products for Western markets, such as glue laminated timber, figure-jointed panels, wood flooring, and wooden Venetian blinds. Nevertheless, the number of large manufacturing enterprises is limited. In the two cities, there

Figure 9 A large wood product manufacturing enterprise located in the Chinese border city of Dongning - Heilongjiang Province, Sept. 2006



26. Sourced from government reports of Suifenhe and Dongning cities on development of timber processing industry.

27. Interviews in September 2006.

are only twenty-seven established companies with capital investments of over ten million CNY (about 1.3 million USD)²⁸ out of more than 500 wood processing factories.²⁹

At the beginning of 2006, the wood processing industry that developed from 2002 in the border area underwent a transformation caused by the policy adjustments in both Russia and China. Russia's new export tax policies on logs might have a critical negative impact on the small mills processing primary forest products. Moreover, the factories that initially relied heavily upon the export of forest products requiring labour-intensive inputs under China's processing trade system were unable to enjoy the export VAT refund policy after the Chinese government listed processed primary forest products in its Catalogue of Prohibited Commodities in Processing Trade³⁰ and began collecting a 10% export tax from 1 November 2006 on exported solid wooden flooring, toothpicks, round bars, chopsticks, and processed primary forest products (including softwood and hardwood).

Because of their Russian processing branches, the large manufacturing enterprises are able to mitigate the pressure from the tax rise on exported Russian logs, thus they may be able to sustain year round production with a small profit margin. However, a number of small processing mills that buy raw materials from log importing companies can achieve only a half-year production during the midseason of timber imports when prices are lower.

4.5.2 *The potential impact of Russia's log export tax on Chinese timber processing enterprises*

Since June 2006, Russia has regularly adjusted its export tax on logs. Although the current export tax rate for softwood logs is 6.5% (but no less than 4 EUR/m³), it is still lower than the other major timber export countries such as Brazil, Canada and the US. Since July 2007, a new export tax system on forest products has been in operation that will eventually raise the Russian log export tax to be one of the world's highest. The standard export tax rate and the minimum required export tax amount for forest products are shown in Table 7.

In 1996, Russia eliminated the lumber export tariff and from April 2006 temporarily set no import duties for wood processing equipment. These initiatives should be seen in the context of Russia becoming more aggressive in promoting its own wood processing industry to improve forest resource utilisation.

If Russia implements the new export tax on logs as announced, it will impact China's enterprises that rely on raw timber material from Russia and may also affect the development of China's wood processing industry, particularly in the border area. Because the new tax rate is three times higher, the import cost for the Chinese firms will grow at least 7%, though both Chinese importers and Russian exporters will share this increase. In the short term, several changes in the pattern of timber trade can be expected, including that 1) the share of semi-finished

28. 1 CNY (China Yuan Renminbi) = USD 0.133 USD on 30/09/2007 (<http://www.xe.com>).

29. Sourced and calculated from government reports on Suifenhe and Dongning cities.

30. On 15 September 2006, five Chinese administrative agencies jointly issued the *Circular on Adjusting the Tax Refund Rate of Some Export Commodities and Supplementing the Catalogue of Prohibited Commodities from Processing Trade* (referred to as Catalogue below) to guide the transformation and upgrading of the processing trade in China. Later, on 3 November 2006, the Ministry of Commerce, the General Administration of Customs and the State Environmental Protection Administration jointly published the *[2006] 82nd Announcement* to remove the tax refund for commercial products and certain commodities processed at a low level that will result in serious pollution and consume a large amount of resources and energy, which were listed in the Catalogue. Primary processed wood products are found in the Catalogue.

Table 7 Russian export tariff on logs

Items	Rate Minimum Amount	1 July 2007	1 April 2008	1 January 2009
Softwood logs	%	20	25	80
	EUR/m ³	10	15	50
Hardwood logs	%	24	24	50
	EUR/m ³	10	10	80
Poplar	%	5	5	50
	EUR/m ³	10	15	50
Semi-finished products with bark thickness 15 cm or less	EUR/m ³	20	25	80

Source: Russian NGOs Forest Club, <http://www.forest.ru>.

Russian wood product imports may increase, 2) Chinese enterprises may establish their sawmills in Russia, and 3) that the wood processing sector in China may seek log imports from other countries to substitute for Russian logs. However, it is also possible that despite the new export tax, Russian log imports may not decrease much due to China’s strong

demand and Russia’s high dependence on primary material export from the RFE and Siberian forest sectors. Moreover, Chinese wood processing enterprises preparing to invest in Russia for the long-term may be impacted not only by cost considerations but also by governance. Under a continued scenario of weak governance and a corresponding risky invest-

Box 3: Case study of a company grouping of enterprises

Powerful groupings of enterprises are organised by large companies to undertake all the product-related roles along the timber commodity chain. Such companies have survived and prospered over more than fifteen years of border trade with Russia. They have dependable Russian business partners and sufficient knowledge about Russia, including its people, society, policies, laws and particularly the formal and informal regulations in local areas. They may offer a wide range of products and services in both Russia and China and enjoy considerable social and economic networks in specific areas. They have the capacity to invest in the wood business, if it is profitable, and their diversity of business will lower the average cost of entry and reduce transaction costs. Their operations are likely to be legal as their investment is of a long-term nature and costs could be very high if they are caught breaking the law.

Company Z is one of the leading group enterprises in Heilongjiang province. Originally, the company imported steel, wheels and metal from Russia and exported textile and light industrial products. Nowadays, the company’s business scope has been extended to include transportation, tourism, housing construction, logging and timber processing, and provision of import and export agent services.

The company started its wood business from 1998. It harvests logs from six concessions in Khabarovsk and Primorsky Krai, the leasing period of which ranges from five to twenty years. In addition to its own harvesting, the company purchases logs and lumber from its Russian partners to support the production of several timber processing mills that it established both in Russia and China. Each year, roughly 100,000 m³ of logs and 40,000 m³ of lumber are consumed by these processing mills. The company’s timber manufacturing production is oriented towards foreign markets. Annually, the company exports 60,000 m³ of structural posts to Japan and sells twelve thousand sets locally in Russia.

Source: Based on interview in September 2006.

ment environment, rather than move their wood processing operations to Russia, they may prefer to bear the higher tariff and to continue importing Russian logs.

How the new export policy will affect forest exploitation in the RFE and Siberia is not clear. The tax adjustment is an industrial policy aiming to promote the wood processing industry in Russia, rather than a natural resource management policy to reduce the export of logs. It might only result in the wood processing manufacturers seeking ways to evade the log export tax and not have any impact on the scale of logging. The sustainable utilisation of the natural forest resource in Russia remains dependent on how effectively the Russian government can apply its environmental laws and regulations designed to achieve sustainable forest management.

4.6 Summary

Chinese companies have entered the Russian forestry sector, introduced greater efficiency and have proved competitive, despite facing disadvantages relative to their Russian competitors. This greater efficiency comes with the risk of new possibilities for Chinese actors to inadvertently or intentionally participate in illegal logging and the subsequent phases of the commodity chain.

Chinese enterprises involved in timber harvesting in Russia prefer registering as sole proprietorships and employing workers from the Chinese SOFEs. Most are small or medium size companies that have a relatively short life span. Chinese actors are also involved in the Russian forestry sector as intermediaries in the commercial log depots, where they usually rent railway lines from the Russian depot owners. Their influence is significant to the point that

they control the wholesale timber market in some parts of Russia.

The survey uncovered a trend towards vertical integration for Chinese companies. Both intermediaries and wood importers are attempting to extend their business to every node of the trading network. This will result in a drop in the number of Chinese companies as large and powerful companies will drive their small competitors out.

Economic and trade reform policies in Russia and China and forest policy reform in Russia have seen various transformations in the timber commodity chain. These transformations have provided new possibilities for Chinese actors to be involved in illegal logging along the successive phases of the commodity chain. Opportunities for Chinese companies to undertake illegal timber harvesting in Russia exist because the *leskhoz* forest officers appear to have a great deal of autonomy in how they report forest crimes, because the forest police face resource constraints and are not independent of local informal networks and because the inspection process during transportation is weak due to the repetitive use of felling tickets, corruption and poor communications in some remote *leskhoz*es. Despite these opportunities, this survey has found that Chinese logging companies will generally avoid “pure black” illegal logging as the prosecution of foreign companies for forest violations could be severe.

In the sorting/piling and processing phase, where intermediaries are mainly involved, Chinese companies dominate in the RFE and Siberia. After this phase, the origin of timber and its legality is difficult to discern. There is no effective means to monitor the behaviour of intermediaries which have developed several ways of “legalising” illegal logs. Intermediaries seldom insist upon consistency between the

actual timber supplied and the documentation accompanying timber deliveries. They may be tempted to accept illegal timber as they require quick circulation of cash. In particular, small intermediaries characterised by limited capital and high mobility that buy timber directly from logging companies with cash are most likely to be involved in the illegal timber trade.

There has been an increase in Chinese investment in wood processing on the Russian side of the border, partly in response to the adjustment of the Russian export tax on logs. Most investment is in new mills that produce wood products destined for China. This provides another means for illegally harvested timber to enter the commodity chain. Moreover, simplification of export documents has made it easier to “legalise” illegal timber through customs.

Another transformation in the timber commodity chain is the rapid development of the timber processing industry in the Chinese border provinces, which has been spurred by preferential tax policies and infrastructure investment. Private sector processing mills have replaced state-owned timber processing factories and moved into new areas. While only a few large manufacturing enterprises can provide semi-finished or finished processed products to Western markets, a number of small and medium mills are engaged in primary processing for domestic needs.

CONCLUSION AND RECOMMENDATIONS

Both the volume and value of the timber trade between China and Russia have increased by several times over levels of the early 1990s. Russia's primary forest products, particularly logs and lumber, play an important role in meeting the increasing timber demand brought about by China's rapid expansion of manufacturing and domestic consumption. The growth in the cross-border timber trade has been lubricated by the liberalised trade policies of both countries.

The Russian forest sector has enormous potential for growth and enjoys comparative advantages such as an abundant resource and an advanced forest practice and science. However, to realise this potential the Russian forest sector needs to meet the challenges of reforming the institutional, legal and policy framework for forest management, improving the investment climate, strengthening forest governance and fighting illegal logging.

The pattern of China-Russia timber trade has become more market-oriented. Private businesses have replaced former state-owned companies as the leading actors. Chinese companies have managed to enter most steps along the commodity chain of exported Russian timber. They have established tight networks with related Russian stakeholders and exert a dominant influence on the trade pattern.

The cross-border timber trade between China and Russia can benefit both countries, if properly regulated. In the logging phase in Russia, the Chinese workers employed are skilful and experienced and are capable of utilising the timber with minimal waste. In other parts of the commodity chain where the interaction of multiple actors occurs, a trend of vertical integration of different phases within one company to minimise transaction costs and uncertainty has been observed. Enjoying the advantage of economies of scale and political influence, large companies tend to be involved in every phase of timber production and trade. Intermediaries also try to integrate the piling, sorting and processing phases. The less efficient, typically smaller companies are driven out of the market.

The transformation of the trade pattern towards greater efficiency does have several negative impacts. The intermediary part of the network has incurred extensive criticism. As the intermediaries are sensitive to the constraints of liquidity, they have provided more opportunities for illegal timber to be exported in "grey" forms. If the intermediaries do not screen the illegal timber, and they currently do not, as the network becomes more efficient both legal and illegal timber will be exported more easily. However, as there is presently no means to differentiate between illegal and legal timber,

any restriction will affect both at the cost of efficiency. The challenge to achieving a responsible timber trade that is beneficial to both countries is to distinguish between legal and illegal timber and to find cost-effective and robust ways to curtail the latter. The following measures should be considered:

■ **Establish inspection sites near the commercial depots**

Commercial timber depots, where piling or sorting occurs, are the main channel that facilitates illegal timber entering the commodity chain. Therefore, establishing inspection sites to verify the legal origin and legal compliance of the wood immediately before logs from different sources enter and are mixed in the depots is needed. As the timber depots are located in fixed places and are operated by authorised entities, in contrast to the on-road inspection that is conducted in the RFE, inspection near the depots would be more effective and cost-efficient. The inspection could be carried out by administrative or independent agencies with the requisite competencies appointed by them, and with regular involvement of environmental NGOs and mass media.

■ **Enhance the effectiveness of administrative inspection through technical improvement, harmonisation of regulations and setting-up of an integrated monitoring system**

At present, administrative inspection is largely not accountable due to difficulties in verifying the authenticity of the felling ticket accompanying wood deliveries. There is also a gap in the current documentation system; namely, there is no requirement for documentary evidence of legal origin once timber is processed. Considering that the number of processing mills in Russia

is increasing, it is important that these processing mills are monitored.

One option is for the federal government to establish an integrated chain of custody system that traces timber regardless of its destination. All parties, including timber processors, would have to be regulated under this system. Instead of the felling ticket that is eliminated from the new Forest Code, a triple-copied certificate with holograms is suggested, as had been used in Primorsky Krai in the late 1990s. Certified companies would have to obtain these certificates from the government agencies. To accurately monitor the timber for log sale and processing, two types of certificate are needed.

The first certificate would be for logging companies, with a fixed quantity of logs per species stated on each certificate, for instance, 100 cubic metres per certificate. This would prevent one certificate from being used repeatedly. The number of certificates that one company could obtain would be determined by the government agency, taking into account the species and quantity of logs stated on the leasing contract. When the logs are sold, the logging companies would be required to send the certificate with the logs to the buyer, thereby certifying their legality. The certificate should accompany the sold logs while they are transported, resold or exported until they reach the final processor. Customs should require the submission of the original certificates.

The other type of certificate would be for timber processing companies. The quantity of timber would not necessarily be fixed on the certificate, since there is no quota regulating how much one dealer can trade

in. Administrative agencies would be able to trace timber and to discern whether illegal and legal timber have been mixed during processing by comparing the certificates the company received with those issued by the agency.

As pointed out by WWF Russia (WWF 2003) two conditions are necessary. First, a government body, rather than a logging enterprise, should issue the certificate. Second, the system should be established under a federal law, rather than be merely a regional initiative. The certificate would become meaningless if the illegal logs could successfully evade inspection in one region and be transported to other regions where no such certificates are required.

■ **Localise international forest certification schemes**

Independent third party forest certification schemes, such as the Forest Stewardship Council (FSC), can be an effective way to promote responsible timber trade. However, the compliance and auditing costs of forest certification schemes are high, particularly for companies in developing or emerging economies such as Russia, where forest management practices may be far removed from the certification standards. The staff of Russian and Chinese companies who were interviewed during the survey complained of the high cost of forest certification. For example, the staff of one company in China stated that their company has to pay on average about 25,000 USD for annual auditing fees. This compares with the average monthly salary of a local worker of less

than 100 USD. A German NGO financed the certification costs of this company and without this subsidisation the company would not have achieved forest certification. One possible solution would be to localise internationally recognised certification schemes, i.e., by developing internationally accredited national standards and by establishing local accredited third party certifiers that would train and employ local experts. This would lower the cost of certification by removing the need to bring in overseas-based experts to conduct the initial certification and the annual auditing. A tender procedure for certifiers could also be considered as a means to reduce auditing costs. The establishment of an independent FSC Foundation as an intermediary between companies and certifiers could further accelerate the application of forest certification and contribute to market development.³¹

■ **Chinese and Russian government agencies to provide joint guidance on documentation that could be used by traders to establish a chain of custody for forest products**

China could contribute significantly to responsible timber trade by requiring documentation of the chain of custody for the legal verification of imported timber. Considering that low awareness exists among traders in the China-Russia border area on legality issues, the two governments should jointly publish guidance so that both Russian exporters and Chinese importers are able to understand the documentary requirements to verify the legality of traded forest products.

31. Some of these ideas were contributed by Anatoly Lebedev in his review of an earlier draft of this paper.

- **Establish a China-Russian multi-stakeholder working group to monitor the timber trade and exchange customs data in a timely manner**

From central to municipal levels, the Chinese and Russian governments have established an intensive intergovernmental system of meetings to promote dialogue on political and economic cooperation. The China-Russia standing working team on forest resources exploitation and the periodical meeting system between leaders of the China-Russia border provinces are two examples. Including relevant government agencies, technical experts and local NGOs in this system of dialogue could benefit forest law enforcement and promote responsible timber business. Participation of Customs is of particular importance to guarantee that the trade flow is properly monitored and data are transparent and accessible.

- **Chinese government to revise its procurement policy to favour legal and sustainable wood**

The Chinese government could substantially contribute to responsible timber trade by revising its public procurement policy to favour legal and sustainable wood. This would provide a further boost to certification and legal verification systems. China could take lessons from other countries (e.g., the United Kingdom, the Netherlands, France and Japan) that have already revised their public procurement policies.

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