

FOREST POLICY IN THE RUSSIAN FAR EAST: CURRENT STATUS IN PACE OF ECONOMIC REFORM

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ABSTRACT

This paper reviews the current forest policy in the Russian Far East, a region with abundant forest resources. They are not only sources of raw materials but also a pivot of regional economic stability; 13.2 percent of the total forest area is in protective status. However forest resource use was unsustainable during the full history of its development and continues to be so. Most species have been harvested at various rates, leading to a significant transformation of pristine forests into second growth ones. The economic crisis has decreased the pressure on forests. At the same time, it aggravates social and ecological problems of forest use. As result there is an increase of forest area but gradual worsening of forest structure. Major negative factors affecting forests are commercial cutting and fires. This paper describes shifts in legislative, institutional, financial, investment and other systems of the regional forest sector. It stresses the situation in forest conservation policy, and describes international ecological programs in the Russian Far East and the efforts of local Forestry Service. It concludes that the situation in the regional forest sector is very complex and the direction of future forest policy is uncertain.

INTRODUCTION

The forest sector was one of the first parts of national economy that was reformed during the transition period in the former USSR. After the USSR collapse, it passed through crucial changes together with other sectors of the Russian economy. In the Russian Far East (RFE), since the forest sector has a significant role in the regional economy, its reformation is a critical matter for further economic development, especially for economic cooperation with neighboring countries and northeast Asia as a whole (Natural Resources, 1995).

A rather clear management system of forest resource use was formed in the RFE which lasted until the beginning of the economic reforms. The bases of this regional system were:

- 1) Centralized authority and granting of permission regarding resource use, by the government in Moscow, thousand of kilometers away;
- 2) Centralized investments from the state budget;
- 3) Provision of labor force from other regions of the USSR;
- 4) Weak interrelation (and quite often direct competitiveness) between sectors of the economy;
- 5) Noncomplex use of some resources with very limited structure and quality;
- 6) Large losses of raw material in the process of transportation and storage;
- 7) Small degree of raw material processing, lack of processing base;
- 8) Absence or only symbolical payment for forest resources;

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- 9) Minimum of ecological limitations;
- 10) Obsolete logging technologies; and
- 11) Low compensation of employees by the social infrastructure.
- 12) As a result, there was non-rational and unsustainable forest resource use.

Such forest resource use resulted in the reduction of those stocks which could be extracted by methods designed for virgin forests. For a long time the timber production volume was much less than the potential capacity of the forest-resource. In spite of that fact, incorrect methods have resulted in transformation (generally negative) of most of the forest resources where they were applied. In many places the forest resources are depleted, and in some places they are exhausted completely. However the extensive RFE forest resources remain sufficiently large at present.

FOREST RESOURCES AND THEIR USE

The RFE has abundant forest resources that include 225.2 million hectares of dense forests and 20.4 billion cubic meters of wood stock (Table 1).

Forest lands are the primary land use category in the RFE. Lands that are used for forest activity cover 495.9 million hectares, or 79.8 percent of the region's territory. Their structure is relatively complex and varied, and the percentage of lands with no forest cover (15.2 percent of the total land area) and non forest lands (28.8 percent) is rather high. Forest lands that are not covered with forest (i.e. deforested lands) contain forest nurseries, lands burnt over by forest fires, logging sites, and open forests. Non-forest lands comprise farms, roads, and agricultural lands, but are mainly swamps and mountain deserts.

Dense and creeping forests and bushes make up slightly more than half (277.8 million hectares, or 56.0 percent) of the total area used for forest activity (Table 2). Most have been developed though they preserve their native features. Forest plantations make up 2 percent of all forest lands (0.7 million hectares) and are younger than 50 years old.

Table 1. Forest Land Use in the RFE, January 1998, million hectares

| Provinces | Forest Lands | | | Non-forest Lands | Total Area |
|-------------------------------|---------------------|-------------------------|-------|------------------|------------|
| | Covered with Forest | Not Covered with Forest | Total | | |
| Sakha Republic (Yakutiya) | 143.2 | 49.3 | 192.5 | 62.3 | 254.8 |
| Yevreiskaya Autonomous Oblast | 1.5 | 0.1 | 1.6 | 0.5 | 2.1 |
| Chukotskiy Autonomous Okrug | 5.0 | 4.6 | 9.6 | 17.8 | 27.4 |
| Primorskiy Krai | 11.3 | 0.2 | 11.5 | 0.4 | 11.9 |
| Khabarovskiy Krai | 52.5 | 5.4 | 57.9 | 15.8 | 73.7 |
| Amurskaya Oblast | 22.5 | 3.1 | 25.6 | 5.1 | 30.7 |
| Kamchatskaya Oblast | 19.2 | 1.6 | 20.8 | 23.2 | 44.0 |
| Magadanskaya Oblast | 17.1 | 10.2 | 27.3 | 17.1 | 44.4 |
| Sakhalinskaya Oblast | 5.5 | 0.7 | 6.2 | 0.7 | 6.9 |
| RFE Total | 277.8 | 75.2 | 353.0 | 142.9 | 495.9 |

Source: Data Base of the Economic Research Institute, Khabarovsk, 1999.

Table 2. Distribution of Forest Lands According to Dominate Tree Species (thousand hectares) and Total Wood Stock (million cubic metres), 01.01.98

| Provinces | Conifers | Deci- duous | Creeping Forests & Bushes | Total Area Covered with Forests | Total Wood Stock |
|---------------------------|----------|----------------|------------------------------------|---|------------------------|
| Sakha Republic (Yakutiya) | 119604.6 | 2007.5 | 21614.4 | 143226.5 | 8843.9 |
| Yevreiskaya Auton. Oblast | 559.3 | 970.2 | - | 1529.5 | 165.7 |
| Chukotskiy Auton. Okrug | 1734.2 | 105.8 | 3223.6 | 5063.6 | 86.4 |
| Primorskiy Krai | 6328.1 | 4961.6 | 45.6 | 11335.3 | 1770.6 |
| Khabarovskiy Krai | 39256.9 | 6930.5 | 6316.1 | 52503.5 | 5265.3 |
| Amurskaya Oblast | 14617.6 | 5650.6 | 2191.9 | 22460.1 | 1992.0 |
| Kamchatskaya Oblast | 1134.0 | 8323.2 | 9721.9 | 19179.1 | 1191.9 |
| Magadanskaya Oblast | 7666.9 | 211.9 | 9191.3 | 17070.1 | 430.3 |
| Sakhalinskaya Oblast | 3824.5 | 1335.5 | 306.6 | 5466.6 | 616.6 |
| RFE | 194726.1 | 30496.8 | 52611.4 | 277834.3 | 20362.5 |

Source: Data Base of the Economic Research Institute, Khabarovsk, 1999.

The majority of forest lands are covered with coniferous species (70.1 percent, 194.7 million hectares) and for the most part are simple in structure. Larch is the most broadly distributed species (59.3 percent of all stands, 164.8 million hectares). After larch is white and stone birch (7.8 percent, 21.8 million hectares). Fir and spruce forests come in third (5.4 percent, 14.9 million hectares).

The most valuable forest lands in the region are very mixed forests dominated by Korean pine (*Pinus koraiensis* Sieb. et Zucc.), which is named "cedar" in Russian (1.2 percent of total forest lands, 3.3 million hectares). Mixed forests dominated by oak (1.1 percent, 3.1 million hectares), linden (0.3 percent, 0.8 million hectares) and ash (0.1 percent, 0.4 million hectares) are found in the south of the region. Creeping pine (*Pinus pumila* Rgl.) and creeping alder (11.8 percent, 32.4 million hectares) forests grow in higher mountain zones and on flat lands in northern RFE. Bushes are represented mainly by willow and birch.

According to Russian forest standards, the majority of the RFE provinces are classified as well forested areas. Only Chukotka, where the landscape is dominated by tundra and forest tundra, is classified as thinly forested.

Annual allowable cut (AAC) in the RFE is 95.2 million cubic meters. Peak of its use was passed in 1986 - 36.7 million cubic meters. In 1997 the total cut volume in the region dropped to 10.1 million cubic meters.

The RFE loggers cut less than half, in some forest tracts less than 70 percent of the local annual allowable cut because of the limits of current logging technologies and equipment and because of the state of processing technologies and facilities. High tech equipment is needed to harvest the remaining part of AAC. In all RFE provinces coniferous stands are the primary harvest target although harvest practices are very uneven: some stands are over exploited and some are not harvested at all.

In 1965-1999, the annual allowable cut decreased by 25 percent. This is accounted for, in part, by a decline in the amount of mature forests that are available for exploitation and, in part, by a growing awareness of alternative functions of the region's forests.

Current inventory procedures in Russia do not provide accurate information on the species structure of the harvested timber. Either better expert evaluation or field research are necessary to determine what species should be logged.

Special investigation in Primorskiy Krai revealed that species structure of the *krai's* harvest in 1994 was (in percentages): spruce - 40.7, fir - 21.5, yellow birch - 18.6, ash - 4.0, elm --3.6, oak --3.1, larch - 2.2, white birch - 2.2, aspen - 2.0, Korean pine - 1.2, maple - 0.7, linden --0.2. Primorskiy Krai forests are the most diverse in the RFE and are distinguished by a higher degree of deciduous species. In Khabarovskiy Krai, harvested timber includes practically only softwood: spruce (around 60 percent), fir (around 10 percent), larch (about 30 percent). Only 2 to 3 percent are white birch and aspen. The same situation is in Sakhalinskaya Oblast. In Amurskaya Oblast, 50 percent of the total harvest is larch, spruce is 30 percent, fir is 10 percent, and white birch is about 10 percent. Larch is almost the only species harvested in Magadanskaya Oblast. In Kamchatka the main harvested timber is larch; spruce and white birch amounts to 20 percent of harvest. In Yakutiya pine and larch are primary harvest targets, the former having a bit more volume than the latter.

Active industrial development of the forest resources began 130 years ago in the RFE. Until now methods designed for virgin forests are used. However about 40 percent of forests are transformed and new methods and more intensive forestry systems are now needed. The gap between obsolete methods and the new status of forests is growing, resulting insignificant ecological disturbances because the RFE forests are a pivot of ecosystem stability. A complicated knot of contradictions has developed.

The whole history of development of the RFE forests demonstrates the classical scheme of unsustainable use and the resulting marginal cost growth. The extraction of timber and non-timber raw materials is becoming more expensive and this trend will continue. Global experience shows that as one approaches to a higher level of costs it becomes more favorable and reasonable to involve secondary use of resources which are wasted today. The same goes not only for visible waste paper, sawdust, etc., but also for huge amounts of timber that are left at the area of extraction. In the RFE, not less than 1 extra cubic meter of timber is left wasted for each 3 extracted cubic meters of timber.

The forests of the RFE play an important environmental role, and are a stabilizing factor on both the regional and global level. Forests contribute significantly to water and soil protection, and fish conservation; 13.2 percent of the total forest area is in protective status (forests of the first group) and 1.0 percent are commercial-protective forests (forests of the second group). The remaining 85.8 percent are commercial forests (forests of the third group). There is a growing awareness of the social importance of forests and of the role they play in recreation and public health. These latter functions, as a rule, are provided in the forests of the first group.

In spite of big transformations affecting forests of the RFE, the forests of the region are still extensive. The forests of the RFE can provide opportunities for sustainable forest management.

BASIS OF FOREST POLICY

In problems relating to environmental protection, we should recognize that the above mentioned disturbance of 40 percent of forest in the RFE is summary index that reflects a range of ecological violations such as soil damage, forest fires, etc. Such disturbances are certainly a cause for concern. However, the situation can be improved.

On one hand, the current economic crisis has decreased the pressure on forests. On the other hand, crisis and insufficiently considered reforms provoke management deregulation and loss of forest use control. These aggravate social and ecological problems of forest use. A solution can be found in the replacement of the out-dated forest use methods with the new ones.

The symptoms of crisis now occurring in connection with the transformation of forest-resource base of the RFE first appeared in middle of the 1970s. The central authorities of the former USSR did not recognize the new situations and prolonged the use of older methods that have resulted in the fast deterioration of production of raw material in the 1980s. As a result, the recession of forest sector production began in 1987, i.e. earlier than in the regional economy as a whole.

The opinion was held by many that the exhaustion of forest resources has arisen and widely spread. Actually the forest resources were and remain one of main elements of RFE economic development, and in a number of territories, are the main base of the local economy. But a transformation of the forest use system has become urgent. It is already late to have a transformation, as it was not carried out in an economically rather stable period, which ended with the beginning of economic reforms. In addition, the old system of forest management has appeared rather hardy and does not break up at once. However, it should be replaced with a new one, and this process does not go without struggles of organizations and persons.

The RFE has one of the most important forest stocks of Russia and its role in the structure of the federal forest sector is based on its significant scope of forest resources, but it is particularly problematic because of the system of timber export which has been created.

Late in the 1980s and up to 1991 the forest sector provided 10 percent of the industrial commodity output and employed up to 13 percent of the labor force in the RFE (The Russian Far East, 1994). However the economic crisis impacted it stronger than other sectors and its recession occurred more quickly. This led to a permanent decrease of the forest sector role in the regional economy to only 3.5 percent in 1997.

As noted already (Sheingauz et al., 1996), in the course of economic reform the forest sector of Russia appeared to be on the periphery of central power interests. Central organs of the sector's state management were almost eliminated. The number of federal decisions on forest issues made up a small share of a whole large flow of these documents. Forest sector problems were either not regarded at all or were hardly reflected at the federal level.

In contrast to the federal level, the situation in the most parts of the RFE provinces are different because the forest sector plays not only an important economic but also social role. In many *raions* (administrative districts), the sector is the principal factor of supporting the formed level of the territory's development and in many places, the main factor of settling and supporting of villages. That's why both provincial and municipal administrations pay serious attention to the forest sector.

With its products and services the forest sector provides working conditions for many industries in the RFE, first of all to construction and transport. It also provides a considerable portion of exports.

Inside the regional forest sector the share of provinces changed in the course of economic reform and crisis (Table 3). Regional production became more concentrated in Primorskiy and Khabarovskiy Krai, where in 1997 almost 62 percent of forest products of the RFE were produced. Both of them contain the most part of other economic potential.

The structural changes in many respects were slowed by preservation of old methods of forest resource use, which led to a deepening of the contradictions between methods of use and the state of resource base. The transformations that have arisen on

the inside of the forest sector have coincided with restructuring of the external economic mechanism, and problems now appear to be deeper and more troublesome in comparison with other economic sectors, for objective reasons. They can be divided into groups as analyzed below.

Table 3. Share of Forest Industry Production of Provinces in the RFE Regional Volume, percent

| Territory | 1990 | 1995 | 1996 | 1997 |
|-------------------------------|-------|------|------|------|
| Sakha Republic (Yakutiya) | 9.0 | 6.3 | 6.1 | 5.2 |
| Yevreiskaya Autonomous Oblast | - | 1.9 | 1.4 | 1.9 |
| Chukotskiy Autonomous Okrug | 0 | 0 | 0 | 0 |
| Primorskiy Krai | 15.8 | 22.4 | 21.7 | 21.5 |
| Khabarovskiy Krai | 32.4* | 31.1 | 34.0 | 40.3 |
| Amurskaya Oblast | 14.9 | 12.8 | 13.1 | 11.4 |
| Kamchatskaya Oblast | 9.0 | 2.1 | 1.8 | 1.7 |
| Magadanskaya Oblast | - | 0.9 | 0.6 | 0.8 |
| Sakhalinskaya Oblast | 18.9 | 22.5 | 21.3 | 17.2 |
| RFE | 100 | 100 | 100 | 100 |

* including Yevreiskaya Autonomous Oblast.

Source: Department of the Far East Representative of RF Economy Ministry (not published).

CHANGES OF THE LEGISLATIVE SYSTEM

The politic and economic changes made the forest legislation of the former USSR unserviceable. As a result, from 1991 to 1993 there was a burst of local forest legislation activity at the level of the subjects of the Federation (provinces). In 1993 the "Fundamentals of the Forest Legislation of Russian Federation" (1993) were adopted with urgency. Largely the text was a mixture of old USSR law with completely new rules caused by the transition to a market economy, resulting in a very contradictory and actually fruitless document. In 1997 the "Fundamentals" were replaced with the "Forest Code of the Russian Federation". This document is largely oriented to market conditions in the forms in which they are seen today.

For the first time in the Code "forest" is determined as an entity of wood vegetation, soil, animals and other components of the surrounding natural environment that have important ecological, economic and social significance. Such a definition is very important as a basis for sustainable development and multiple use of forests.

After 1918 all forests on Russian territory were under an extremely centralized state ownership system. It is understandable that in the transition to a market system, ownership is very important. The "Fundamentals" of 1993 did not contain a formulation covering forest property. The "Forest Code" has introduced a more complex system of property ownership. An overwhelming area of forests both in Russia as a whole, and in the RFE in particular is referred to as state federal property. At the same time the "Forest Code" does not exclude plurality of types of property: state (federal and provincial), municipal (*raion*-district, city, town, village), public organizations, collective, and private.

The Russian Federation Forest Code does not give property right to subjects of the Federation, but it gives them many rights of management. It describes these rights in

Special Chapter 7 but it contains some inaccurate formulations. The Code has cancelled almost all rights which were previously held by municipalities.

The "Forest Code of the Russian Federation" marks out only seven kinds of forest use (Clause 80):

- 1) Timber harvesting;
- 2) Coniferous resin extraction;
- 3) Extraction of secondary forest resources (stumps, cork, Christmas-trees, etc.);
- 4) Extraction of by-products (hay, honey-making, berry picking up, etc.);
- 5) Use of hunting lots;
- 6) Use for scientific purposes;
- 7) Use for cultural, sanitary, touristic and sport purposes.

It is evident that the list of uses is not complete and does not comply with concept of sustainable management. Later, in the "Forest Code of Khabarovskiy Krai" the list was developed to 4 classes, 24 uses and the local Code indicates that the list is open for further additions.

The delivery of use rights to users is very important in situation of state property. The Russian Federation Code is the first forest law that identifies gratuitous and chargeable uses. The latter are differentiated in various kinds: lease, concession, short-term use, etc. Each kind is connected to terms and rights of the user. The maximum term of lease is 49 years. However, such terms do not correspond to the conditions required for maturity of forests in the RFE: 80-150 years. In the Khabarovsk Forest Code the situation has been improved by introduction of a so-called "green lease", i.e. elongated lease.

The Russian Federation Code stresses that forest lot allocation must be made through competition: tenders and auctions. It permits also direct negotiations. Unfortunately, it does not stipulate precisely, in what conditions the direct negotiations are applied, and it maintains loopholes for arbitrariness and corruption of bureaucrats.

The federal Code unconditionally prohibits subleases (Clause 31). However, implementation is not straightforward, and the prohibition contradicts the real situation and limits management opportunities.

The certification of forest users has been made mandatory. Khabarovskiy Krai was one of the first in the Russian Federation that established a special commission for those purposes, firstly under supervision of the Krai Forestry Service Directorate and now under the Department of Natural Resources in the Krai Administration. Such certification applied in many subjects of Federation even before entry of the Code into force as a result of the appearance of many new private users. The certification is the basis to receive a license for the right to use the forest. Accordingly, the Code gives new significance to the license. Today licensing only verifies the professional, technical and financial capability of the user. To lease a forest lot a candidate must win a competition process and sign a lease agreement.

The system of forest use payments consists of forest dues (payment for use) and rents.

Forest dues include the following:

1. Payment for timber, i.e. traditional stumpage fees.
2. Payment for secondary resources and by-products.
3. Payment for land use.
4. Some additional payments (for information, for participation in auctions, etc.).

This is a more complicated system than that which was implemented during the planned economy era.

The federal Code fixes a double level of determination of forest payments. The Federal Forest Service designates the minimal level. The fees of this level are differentiated by region, wood species, and timber quality. At a local level, these rates can be increased either as a fixed price list or as bid prices. Forty percent of payments collected on the minimum rates go to the federal budget, and sixty percent to the budget of the Federation subject. The amount over the minimum rates is transmitted to *leskhoz*s (forestry enterprises) only for forestry management.

Unfortunately, "Forest Code of the Russian Federation" contains a number of internal contradictions as well as contradictions with other laws in force including such basic acts as the "Civil Code of the Russian Federation". They arise because the Code perpetuates some defects of "Fundamentals" of 1993, and does not take into account local conditions, and new market experience.

The essential defects of the Code consist in the following:

1. It does not contain precise definitions of terms and concepts.
2. It is a component of the Russian Federation legislation about natural resources but it is not coordinated with relation to branches of the Russian legislation.
3. Interpretation of property rights contradict the spirit of Constitution and Civil Code of the Russian Federation. The questions of competence of different bodies and agencies are not clearly delineated.
4. The mechanism of forest use payments is determined without adequate consideration.
5. The public participation in decision making is very poorly addressed.

Clauses of the Federal Code require numerous clarifications and detailing. It is being executed through adoption of about twenty additional acts at a level of the Russian Government and Federal Forestry Service. Government has authorized the list of such acts.

The federal Code has not become fully democratic and market-oriented. It maintains the spirit of strong central power of the state.

In spite of its imperfection, the Forest Code of the Russian Federation is a big step ahead in the forest policy of the transition period. Its preparation and then adoption generated a new wave of local forest law development. Such a situation was not reinforced by the Federal Forestry Service. The latter considered the federal Code to be an act to be directly applied and thought that the Code did not require additional local laws. However, the majority of forest provinces has not agreed with it. And what is more, Khabarovskiy Krai lodged a complaint against the Russian Constitutional Court that the Federal Code violates some rights of the Federation Subjects. The complaint was rejected but it did not extinguish the desire of provinces to establish their rights, especially heavily-forested provinces for which the forest sector is one of the mainstays for their economy.

One of the firsts was the "Forest Code of Khabarovskiy Krai" (1999). Its development began before acceptance of the federal Code and went within the framework of the Russian-USA "Russian Far East Sustainable Natural Resource Management Project". Groups that included more than 20 experts of very different specialties elaborated the draft. It was discussed at workshops organized specially for the purpose, and passed through a procedure of two-month public consideration with wide publication in mass media. Finally, one of the first Russian public hearings was

implemented. More than 600 remarks were considered. The qualified international experts helped to achieve the best result.

The main purpose of the local Code was drawing up a document, which, on the one hand, does not contradict the federal Forest Code and corresponds to all its basic concepts, and on the other hand, takes into maximum account local conditions of forest use in Khabarovskiy Krai. The main distinctions of Khabarovskiy Krai Code from the federal one are described below.

In contrast to the federal Forest Code the local Code begins with definitions of all the main terms and concepts, that at once removes a number of the contradictions and makes the local Code more precise. Competencies of *krai* and municipal authorities are described more exactly.

It has been mentioned above that the types of forest use are described more broadly and in more detail in the Krai Code. The entire system of forest use allocation has a more definite construction, and includes operational mechanism as its main elements. The local Code legitimized the *krai* commission on forest use.

The Krai Code emphasizes a competitive basis for forest allocation. Direct negotiations can be used only under any social preferences. In all other cases the local Code proclaims equality of all users that has not made the Code of the Russian Federation.

Khabarovsk Code gives a more extensive and more accurate list of lease conditions. The lease agreement specifies the user's rights and responsibilities concerning use, guard, protection, and reproduction of forests on a leased plot. The agreement gives the lessee the exclusive right to the leased resources (such exclusiveness is not stipulated in the federal Code), but does not entitle the use the resources which have been not leased, and does not limit access of the population to the forest. However, the latter may not use leased resource. This is also new in comparison of the federal Code.

The prices and fees should always be defined on the basis of tenders and auctions instead of fixed price-lists. The rates established as a result of competition are firm for all terms of use but can be indexed after change of a financial and economic situation. The Khabarovsk Code introduces also the separate payment for the volume of resource used annually, in fact, and for the whole leased area. The latter is implemented to prevent unreasonable extension of the lease, and also to increase the user's interest in using the resource rationally. Another new element is the allocation of 20 percent of forest payments to municipalities.

The Khabarovsk Code contains new clauses and sections devoted to the roles and rights of the public in management and control of forest use, and access to forest information. A special chapter about ecological assessment, including the role of the public, is written. The anti-monopoly clause prohibits a concentration in one hand of more than 30 percent of a *krai's* resource (such a clause is absent in the federal Code). Special attention is given to aboriginal forest use.

As a whole, the Forest Code of Khabarovskiy Krai in comparison with the Forest Code of Russian Federation is more democratic, transparent, adequate to the spirit of economic reform, a more suitable for implementation. The experience now extends in some other forest provinces. Drafts of a local forest code have been prepared in Amurskaya Oblast (the RFE). A special group is elaborating the local forest code now in Krasnoyarskiy Krai (Siberia), All the RFE provinces have passed a number of local laws or decrees of administration on separate questions of forest use. The process of developing forest legislation at the local level has become practically continuous.

INSTITUTIONAL CHANGES AS INSTRUMENTS OF FOREST POLICY

The organizational structure of the forest resource and forestry management system was elaborated after World War II and until the current period of economic reforms it had a rather clear and relatively simple structure (Tseplyaev, 1965; Nove, 1977; Blandon, 1983; Barr & Braden, 1988; Sheingauz et al., 1995; Russia: Forest Policy, 1997). It remains basically the same but in the course of reforms it has become more complicated.

The structure is divided horizontally into legislative, common executive and departmental vertical lines. These three verticals cover all levels existing in the Russian Federation. However, the depth of their influence in fact varies. Each vertical is divided according to the territory: the Federal level, the level of the Federation subject (province), and municipal level.

Management of forest use in each province is implemented via two verticals: provincial administration (“governor vertical”) and Forestry Service. In some provinces (e.g. in Khabarovskiy Krai) the provincial Forestry Service Directorate submits not only to the Federal Forestry Service (Rosleskhoz) but also to provincial Administration. To some extent, this complexity is inherited from Soviet times when forestry management in provinces was in double submission: Ministry of Forestry of the RSFSR and provincial Executive Council. In Khabarovskiy Krai such double submission is currently stated in the local Forest Code.

In all provinces the forest use management now is not only the responsibility of the Forestry Service as in previous times. There is permanent increase and pressure to this sphere from the provincial administration that considers the local Forestry Service to be a federal body. However local administration does not want to relinquish its power to central authority. Each provincial administration has special divisions that manage forest use. There are special departments in such heavy-forested areas as Khabarovskiy and Primorskiy Krai, Sakhalinskaya Oblast.

As an inter-departmental body, most provinces now have a Commission of Forest Use, which unites various agencies and has under its authority all forest resource use, as mentioned above.

Other new agencies in forest resource management include local Committees on Managing the State Property of the provincial Administrations, which are getting more actively involved into managing of forest use.

From the 1980s until early in the 1990s the system of environmental control began to be affected by forest use. However it lost power on the federal level gradually. The same process occurred on the provincial level. At present local Committees on Nature Preservation and their *raion* subdivisions implement only functions of outer nature protection control and also carry out the ecological assessments of forest projects.

To clarify the current structure it is useful to look at the most developed one, in Khabarovskiy Krai. Direct regulation of forest use on the *krai* level is executed by the following state organizations:

1. Commission on Forest Resource Use, headed by the First Vice-Governor. It considers applications for use of forest resources, makes decisions on competitions to obtain lease rights, and cancels lease agreements.
2. Krai Administration Committee on Economy, headed by a Vice-Governor. It compiles *krai* budgets including those relating to forest use and forest regeneration, and steers the most important economic projects related to forests. In particular, it currently implements all the activities related with the Pilot project of the World Bank and some projects of USAID. The

Committee Chairman is the permanent representative of the administration in the *krai* Legislative Duma and deals with all the forest legislative initiatives.

3. Committee on State Property Management, headed by a Vice-Governor. It organizes open auctions/competitions for lease rights, has under its authority forest units stock packages belonging to the state.
4. Department of Natural Resources and Resource Extracting Industry. The Department Head is a Deputy Chairman of the Krai Commission on Forest Resource Use. It implements general state strategy of nature use in *krai*, compiles normative-legal aspects of nature use, includes the Division of Forest Industry and the Division of Licensing. The latter deals with forest use licensing.
5. The State Enterprise "*Khabarovskglavles*". It is responsible for the implementation of state policies in relation to wood harvesting and processing, the industrial potential of Krai forest sector development, as well as the forming of proposals on regional strategy of forest sector development, implementation of new methods, technologies and machinery. It is under the administration of the Department of Natural Resources and Resource Extracting Industry.
6. Forestry Service Directorate of Khabarovskiy Krai. The Head of the Directorate is the Deputy Chairman of the Krai Commission on Forest Resource Use. In addition to that the Directorate delegates to the Commission the Chief Forester and Forestry Department Head (Secretary of the Commission). The Forestry Service Directorate is a specially authorized state organ on management in the sphere of use, protection, stewardship and regeneration of all natural resources in the forest land use (*lesnoi fond*) of Khabarovskiy Krai. It provides:
 - Rational use, protection, stewardship and regeneration of forests that are transferred to its economic authority and operative management in the forest land use (*lesnoi fond*);
 - Methodical management and control of use, protection, stewardship and regeneration of the forests over the whole territory of Khabarovskiy Krai.

The Directorate provides both regional and federal interests in regulating of forest resource use and also protection, guard and regeneration of the forests. The total activity of the Forestry Service Directorate is based on its primary units, known as *leskhoz*s. *Leskhoz*s were and remain to be the lowest independent organizations (juridical persons) in forestry. The structure of the Khabarovsk Forestry Service includes 44 *leskhoz*s and among them are the Genetic Center, Nanai Experimental *Leskhoz*, and Vyazemskiy *Leskhoz*-College. The average area of one *leskhoz* makes up 1,638,000 hectares, and without taking into account the area of three largest *leskhoz*s - Ayanskiy (15,907,6,000 hectares), Chumikanskiy (9405.7) and Okhotskiy (15826.0), the average area of one *leskhoz* is 775,000 hectares.

*Leskhoz*s are the specially authorized state management units in the sphere of use, protection, guarding, and regeneration of forests in the areas of state management entrusted to them by the *krai* forestry Directorate and Khabarovskiy Krai administration in those parts of Khabarovskiy Krai territory, which are covered by the zones of their activities. They perform various functions, the main of which are:

- Accounting of growing stock;
- Signing agreements for lease and assigning of Forestry Service lands for short term use on the basis of Krai Commission on Forest Resource Use decisions;
- Allocation of felling areas according to the types of forest use;
- Annual allotting of felling sites and issue of logging and forest cards, orders, etc.

The main structural subdivisions of *leskhoz*s are *lesnichestvos*. They are minimal territorial forestry administrative units, which are responsible for:

- Current inventory of forest lands, feeding of current changes into materials of forest inventory;
- Direct executing of forestry, forest regeneration, and other activities;
- Prevention and control of forest fires, damages and poaching cases;
- Protection of the forests from pests and diseases;
- Examination of logging sites and areas of other forest use types, and so on.

Leskhozoes of the Khabarovskiy Krai Forestry Service include 157 lesnichestvos. The average area of one lesnichestvo is 457,7,000 hectares. The number of the Krai's forestry staff in December 1998 was 2,800 persons.

7. Far East Base of Aircraft Protection of the Forests. It is directly under the authority of the Central Base of Aircraft Protection of the Forests that is division of the Russian Federal Forestry Service. The goal of the Far East Aircraft Base is prevention, detection, and control of forest fires as well as mass outbreaks of forest pests. Its functions include aircraft patrolling of forest territories for timely detection of forest fires, forest fires control with smokejumpers and rappellers teams and groups, aircraft forest pathology survey and air-visual examination of forest areas with on-the-ground checking to reveal the sanitary condition of the forests. To meet these goals forest aviation fire stations and mechanized detachments are organized in the serviced territory. The Far East Aircraft Base in Khabarovskiy Krai includes 22 mechanized detachments.
8. Far East Forest Inventory Enterprise. It is a zonal unit covering the whole RFE and under the direct authority of the Federal Forestry Service (Rosleskhoz) but its headquarters and main volumes of activities are located in Khabarovskiy Krai. Hence, its forces are broadly involved to meet *krai* goals. In particular its Chief Engineer is a member of Krai Commission on Forest Resource Use. The main responsibility of the enterprise is the Forestry Service lands inventory and forest survey works, development of the projects (plans) for forestry organizing on the territory of leskhozoes.
9. The Far East Forestry Research Institute is also under the direct authority of Rosleskhoz and works for the whole zone of the RFE. The Institute itself and its two important subdivisions are located in Khabarovsk and its outskirts. The Director of the Institute is a member of the Krai Commission on Forest Resource Use. The Institute carries out and coordinates scientific research to study practically the whole specter of issues related with condition and dynamics of forests, forestry activities in them, and develops recommendations and normative-legal acts for forestry of the RFE zone.
10. The consulting firm "Dallespromproekt". It designs projects of new forest industry enterprises and road construction in all provinces of the RFE.

Other part of forest sector now consists of private firms that deal with forest resource use, most of all with timber use. Some of them are former state enterprises, –and others are new firms. Significant institutional changes include a specific feature of this component of the forest sector in recent years. Before reforms a great portion of the forest industry was represented by big state firms such as “Dallesprom”, "Primorsklesprom", etc. They supervised real production units known as "lespromkhozoes", and the entire system belonged to the Ministry of Forest Industry of the USSR. The share of timber that was harvested by lespromkhozoes made up to 65-70 percent in the RFE and up to 80 percent in Khabarovskiy Krai and Sakhalinskaya Oblast.

Now such big firms as “Dallesprom”, "Primorsklesprom", "Sakhalinlesprom" are reorganized into joint-stock companies. Forest harvesting and wood-processing enterprises, which were their subsidiaries, became the founders of the companies alongside with state. The big firms transferred into holding companies that have a target to coordinate deliveries of

forest products according to mutual obligations between stockholders and to provide timely payments as well as material and technical provision of the industrial units. Almost all the former forest industry enterprises have been converted into joint-stock companies. Lespromkhozes themselves became open joint-stock companies. In all companies 15 to 51 percent of shares belong to state. Although quite often the controlling portion of the stocks belongs to the state, as a matter of fact they work as private non-governmental firms. Most of them stopped their production activity and transferred it to small subsidiary units, which sprang up in great number. Officially state shares are managed by provincial Committees on State Property Management, but in reality, by officers of provincial Administration divisions responsible for forest resource use. New forest industry enterprises are established both in the form of corporate and private property. Now 95 to 98 percent of harvested and processed timber is produced by private enterprises.

In 1995 and subsequent years a redistribution of controlling packages of shares happened in a majority of stockholders companies of the forest sector, both through exchanges between various owners and through purchasing the shares on the secondary market of valuable papers. In 1998 and specifically in 1999 one more way of share redistribution appeared: the provincial authorities started to take them into their property to clear off the debts of the enterprises to the local budget. And hence the share of the state ownership of the stocks grew as well as the extent of state influence on the management of stockholders' companies. However, it is significant that now it is provincial rather than federal property that is increasing.

During the transition period the number of enterprises (and users) increased by 4 to 5 times. Particularly quick were new firms formed in the years 1992 and 1993 (the era of mass privatization) and after that the rate of new enterprise growth permanently decreased. Increase of working subjects in the regional forest sector paced faster than average in the regional economy. Many small enterprises were established for short-term harvesting and were ineffective in forestry management.

The enterprises have different organizational forms. For example in Khabarovskiy Krai in 1997 there are open type joint-stock companies (22 percent of total enterprises in the Krai forest sector), limited partnerships (the same percent), small enterprises (10 percent), individual private enterprises (8 percent), limited associations (6 percent), closed-type joint-stock companies (5 percent), and joint ventures with foreign capital (2 percent). The remaining 25 percent include agricultural farms; municipal enterprises; gold-mining co-operatives; aboriginal communities; construction, repair and road-construction organizations; and training centers. The majority of newly established enterprises have relatively small facilities and are intended for small production volumes. Almost half (47 percent) of the enterprises have production capacities enabling them to harvest up to 5,000 cubic meters of wood annually. The remaining enterprises have annual production capacities of 6,000 to 20,000 (24 percent), 21,000 to 50,000 (16 percent), 51,000 to 100,000 (7 percent), and 100,000 cubic meters (6 percent).

Now the policy of provincial administrations is to support middle- and large-sized firms.

The role of forest industry joint ventures and foreign companies in the economy of forest sector has increased appreciably. In spite of the fact that their number is low their proportion of the total volume of felling operations is rather significant and makes up 6 to 10 percent of provincial forest production.

Institutional-structural changes in the forest sector occurred amidst the background of production volume decreases (Table 4).

Volumes of wood production by so called "base enterprises" (old firms) of the forest industry decreased faster than in the industry as a whole which confirms the growing role of

newly established forest enterprises. In the course of the prolonged economic crisis the sectoral structure got considerably worse and the share of wood harvesting relative to wood processing greatly increased. Currently the share of processed wood is 10 to 15 percent of the sector production in contrast to 30 percent before the crisis: the sectoral structure became “heavier” as it almost completely switched to primary production.

The devaluation of the ruble in August 1998 provided favorable conditions for the restoration of forest exports which account for 50 to 70 percent of the current forest production. It is possible to note increasing production from late 1998 through the first half of 1999. Unfortunately the increase is linked only with the dollar/ruble exchange rate and other economic factors are not changed.

Table 4. Volumes of Commercial Production in the Forest Sector of the RFE

| Products | Maximum production | | Recent production | |
|---|--------------------|------------|-------------------|------|
| | Year | Production | 1990 | 1997 |
| Total Round Timber Production, million cubic meters | 1986 | 36.7 | 29.6 | 10.1 |
| Commercial Round Timber, million cubic meters | 1986 | 28.8 | 26.1 | 6.1 |
| Sawn Wood, thousand cubic meters | 1986 | 6595 | 5415 | 553 |
| Chipboards, thousand cubic meters | 1989 | 227 | 189 | 9 |
| Fiberboard, million square meters | 1986 | 25.9 | 23.8 | 3.0 |
| Plywood, thousand cubic meters | 1986 | 39.8 | 25.3 | <1 |
| Pulp And Cellulose, thousand tons | 1988 | 625.8 | 539.9 | 1.6 |
| Paper, thousand tons | 1979 | 248.7 | 215.5 | 0.7 |
| Paperboard, thousand tons | 1988 | 266.4 | 240.6 | 5.1 |

Sources: Russian Federation Industry, 1991; Regions of Russia, 1998.

The general restructuring of forest sector enterprises is such that their economics and production potential are somewhat diffuse and not adapted to new conditions of the economy. The majority of the so-called "base enterprises" comprise subsidiary units, which can be classed into individual shops and production units. This structure reduces production potential, production opportunities, and trading of traditional types of products. At former state enterprises a “multi-stratum” structure arose, its main goals being—seeking ways of preservation of at least some employment, and obtaining profit despite inefficiencies of old production units. Privatization and auctioning in the forest sector did not lead to improvement of the financial and economic performance of corporate units. The direct relation between privatization and production volume dynamics, profitability and production structure change was also not made clear.

All this weakens control and management of forest industry sector as a part of the regional economy and this was furthered by the fact that the smallest enterprises are registered on the level of *raions*, larger - on the level of Federation subjects (provinces), above that there exist quite a few firms' branches registered outside of the RFE. Special departments/divisions that were established in the provincial administrations to manage forest sector have no rights and instruments of direct interference into economic activity of firms and enterprises, one reason why administrations are continuing to seek new opportunities to gain of forest sector control. This is one of the main current conflicts in the administrative system of the forest sector.

Great hopes have been placed on the federal restructuring program of the industrial forest sector that was approved by the Russian Federation Ministry of Economy in November 1998. It was suggested that similar programs be implemented in each forested region of the Federation. The principal elements of restructuring are:

1. Health of financial conditions of indebted enterprises (currently they are in majority) with restructuring of their debts (in agreement with creditors, the majority of which are local or regional governments). If debt restructuring appears impossible the enterprise is declared bankrupt, and a new enterprise not burdened with debt established on its foundations.
2. Where possible enterprises integrate vertically. On one hand this fosters subsequent technological processes of wood felling, processing, and transporting of product. On the other, it allows firms to escape paying taxes at every stage of product conversion and by that to reduce production costs.

The situation of governmental administration of forestry is more stable and controlled than in the forest industry. In all the Federation subjects of the RFE excluding Chukotskiy Autonomous Okrug, forestry on 99 percent of the territory is under the authority of special organs which join under their power leskhoz, which are under the authority of the Federal Forestry Service (Rosleskhoz) of Russia. As mentioned earlier, the old forestry management structure of the former USSR is preserved. However nowadays territorial Forestry Services are obliged to a greater extent than before –the reforms to cooperate in forest use management with territorial administrations. Formally, it is necessary to agree on main decisions with provincial committees of the State Committee of the Natural Environment Preservation, which in fact implement only inspection functions.

Thus, great institutional changes have occurred in the RFE forest sector during the period of reforms. To a great extent, they are related with changes of economic, political and legal conditions in Russia. The strict vertical administration collapsed, the system of state planning was canceled, and system of centralized material-technical deliveries and sales was changed into a free-market system that in many cases works better and is more operational. The state ownership of enterprises was canceled by their being auctioned off, and many new enterprises arose with different forms of ownership. But in spite of restructuring, it is impossible still to say that this process is complete, a fact confirmed first of all by the financial and economic condition both of enterprises and the sector as a whole.

One of the main current features that influences further institutional restructuring is evident in the struggle for power and property between the federal center and provincial administrations.

FINANCIAL BASE OF FOREST POLICY

Many descriptions do not take into account crucial changes in the forest sector financial system of the Russian Federation.

The main former source of funds for forest sector development was centralized investment. This has been reduced to such an extent, that it practically has no influence on further development. Forest users today must either borrow funds, or provide their own means for investment. They use various approaches, such as increasing raw material exports, seeking new domestic or foreign partners and investors, and obtaining new sources of raw materials. These options allow decisions on tactical questions of the investments, but practically do not create the possibility of significant upgrading of equipment. The increase of raw material prices is countered by decreases of production output, and fast growth of production costs. Therefore, enterprises fail to accumulate

their own means of investment. The high costs of credits, low competitiveness of local raw materials and semi-finished products on the international market also impede the accumulation of such means.

The reform has introduced fees on almost all forest resources. The part of the payments that remain in the local budget would ideally become a source of investments, but the level of payments remain rather low. The local authorities have not yet realized the necessity of supporting re-investment in production, and use resource payment income to solve the most urgent short-term needs in other sectors.

The payments for forest resources should also become a powerful lever to regulate and stimulate rationalization of forest use. Unfortunately, the revenues are designed so that they do not play this role.

The legal principles of the payment system for forest resource use were described above. The most developed local system is implemented in Khabarovskiy Krai, and has the following specifics:

- High species-specific coefficients for ash-tree and Korean pine;
- The rate is lowered by 20 percent during non-clear cut commercial timber operations;
- The rate is lowered by 50 percent when removing timber during intermediate harvest;
- The raion (district) administration can lower the rates, depending upon the loss of the timber's technical qualities and local market conditions after forest has undergone fire, pest infestation, fungus disease, or when there is wind slash, blow down, snags;
- The rate for timber is doubled for short-term use;
- Mark ups are added to the lease payment based upon different lease periods: one to five years - 46 percent; six to twenty-five years - 40 percent; twenty-six to fifty years - 35 percent of the assessed value (payment plus rent) of one cubic meter of timber;
- The rate of payment for the lease of non-timber forest products is set based upon an assessed value (payment plus rent) of the potential volume of resource on the leased territory;
- In cases where the lease holder takes responsibility for conducting other forestry activities and services, the rate of payment for the sections of the forest leased can be reduced equivalent to the cost of such work;
- If new technologies are introduced to improve environmental and forest management conditions when using the forest, lease payments can be reduced (by a rate not stipulated in the law);
- When facilities are built to harvest and process forest products at sites that are once again being developed, the payment can be reduced to 10 percent over the period needed to put production capacity for the deep timber processing into operation;
- The lease payment for simultaneously using several resources can be lowered to 20 percent when a single operator undertakes integrated use of forest resources on a lease site;
- With the exception of commercial timber harvest, payments for integrated use of forest resources on territories of traditional nature use for indigenous peoples of the north are reduced.

Aside from these direct use payments, there are yet other forms of payment that are levied: a) to participate in tenders and b) to obtain information. A condition for participating in a tender is making a down payment to the Krai's Property Fund, the tender organizer. The size of the payment is set for each specific tender, but it cannot be lower than the cost of issuing a license. A negotiable, one-time payment is used. Their initial rates are set based upon the value

of the forest territory being leased and market opportunities. It cannot be lower than the assessed value of the timber, accounting for marketing costs.

Distribution of a One-time Payment is as follows

- a) Krai's Property Committee obtains an amount that covers the costs to shift a forest lot into exploitation and an additional 5 percent from the residual amount to create an insurance fund intended to compensate for unforeseen expenses (law suits, additional environmental assessment, etc.;
- b) 50 percent of the residual amount is sent to the settlement account of the *leskhoz*, the manager of the leased forest lot given over for exploitation;
- c) 45 percent of the residual amount goes to the budget of the *raion* (district) where the leased forest lot is located.

The actual distribution of these payments is shown in Table 5.

The one-time payment does not free the winner of the tender from paying a forest assessment and a lease payment.

The structure of financial sources for the Forestry Service Directorate in Khabarovskiy Krai shows that the role of the lease payment increased as a source of financing for forest management (Table 6).

Table 5. Distribution of the Funds Received from One-Time Payments Made to Participate in Forest Tenders in Khabarovskiy Krai, percent

| Recipient | 1996 | 1997 |
|--|------|------|
| Property Fund, for Conducting the Tender | 13.7 | 12.6 |
| Property Fund - 5% of the remainder | 4.3 | 4.8 |
| <u>Leskhoz</u> | 43.1 | 42.6 |
| <i>Raion</i> Budget | 38.9 | 40.0 |
| Total | 100 | 100 |

Source: Department of Natural Resources and Resource Extraction Industry, Khabarovskiy Krai Administration, 1998 (non-published).

Table 6. The Structure of Financial Sources for the Forestry Service Directorate in Khabarovskiy Krai

| Source | Million Rubles | | | Portion, percent | | |
|----------------------------------|----------------|------|------|------------------|------|------|
| | 1995 | 1996 | 1997 | 1995 | 1996 | 1997 |
| Federal Budget | 20.2 | 32.5 | 29.5 | 56.2 | 49.5 | 41.4 |
| Means Earned by Forestry Service | 8.6 | 17.1 | 26.3 | 24.0 | 26.1 | 36.8 |
| Non-Budget Funds | 7.1 | 16.0 | 15.5 | 19.8 | 24.4 | 21.8 |
| Total | 35.9 | 65.6 | 71.3 | 100 | 100 | 100 |
| Including: | | | | | | |
| Forest Dues | 3.6 | 9.0 | 5.6 | 10.2 | 13.6 | 7.8 |
| Lease Payments | 1.2 | 3.8 | 8.4 | 3.4 | 5.9 | 11.8 |
| Fines and Forfeitures | 22.5 | 3.2 | 1.5 | 6.2 | 4.9 | 2.2 |

Source: Khabarovskiy Krai Forest Service, 1998 (non-published).

The forest resource use system is just as rife with the problem of non-payment as all other sectors of the economy. Thus, actual receipts differ significantly from assessments made. For example in 1997 in Khabarovskiy Krai real receipts of payment were only 56.9 percent of

assessed amounts, 52.7 percent (*raion* common budget), 46.1 percent (*raion* forest budget), and 53.2 percent (average). In Amurskaya Oblast in 1996, the collection of forest payments was a little more than 30 percent of assessed amounts.

In Amurskaya Oblast, forest payments were set at a very low rate. In 1996, the average stumpage rate was 2.5 denominated rubles per cubic meter; in 1997 –it was 3.3 rubles. Stumpage rates were 0.7 percent of total production costs. Local budgets received only an insignificant portion of the forest rent; the remaining portion was appropriated by timber harvesting enterprises. In September 1998 after the federal Forest Code adoption, Amurskaya Oblast introduced a new principle of calculating rates of payment for timber. In addition to the minimum rate set by the Russian Federation government, a premium payment, ranging 20-50 percent for different *raions*, is indicated for primary timber species (pine, larch, fir, and Korean pine). No premium is collected for non-primary species. Even with the average rate of the regional premium in Amurskaya Oblast at 0.8 rubles per cubic meter (a 15 percent increase), the total timber payments only amounted to 1.3 percent of the production cost of commercial timber.

Forested provinces have one more source of forest revenue: payments made in the case of transformation of forest lands into non-forest ones for construction, mining, etc. Sakhalinskaya Oblast adopted relatively high prices, i.e. about 10,000 rubles per hectare (\$400 at summer 1999 exchange rates). The main consumers of forest land there are now international oil companies. Analogous regulations are now being developed in Khabarovskiy Krai. Meanwhile the current price here is 2,000 rubles per hectare (\$80), and the main consumers are gold miners. The same consumers and level of payments are in Amurskaya Oblast. In that territory payments for forest land transformation make up 17.5 percent of the total volume of the Forestry Service Directorate revenues.

As shown above, the question of non-payment for the use of forest resources is not so much a result of economic conditions as it is a consequence of inadequate legal and financial discipline.

OTHER MEASURES FOR POLICY IMPLEMENTATIONS

As mentioned, RFE forests suffer unsustainable logging, labeled locally in Russian as "bad-managed". One of the reasons for such logging practices is the use obsolete machinery and technologies. Renovation is not only a problem of investment, but one of policy as well. The technological improvements here are still inadequate, and the state of technology and engineering in the RFE forest sector does not correspond to the world level; urgent changes are necessary. The absence of means on updating the equipment practically prevents progress to the newest technologies, though it is necessary to introduce them quickly. One of the most realistic paths of obtaining the new technologies and know-how is to attract foreign companies. However not all foreign investors make efforts to bring new technologies, and a tendency exists to continue damaging and unsustainable exploitation of raw material.

Today in the region some new technologies are evident, mainly as a result of foreign investment or specialty production businesses for export production. However most encounter difficulties due to the economic crisis.

During the whole history of the RFE its forest sector had only a small portion of wood that was processed. In pace with the crisis even that portion decreased further. Manufactured products, which are made with out-of-date technologies and for which there is a long and ineffective organizational and administrative chain of infrastructure,

are uncompetitive, and their output has almost halted. This situation does not correspond to the market tendency in northeast Asia.

In connection with a recovery from crisis the share of processing will increase inevitably because of:

- 1) a deterioration of the quality of raw materials;
- 2) a reorientation of demand in related industries and in household consumption;
- 3) the likely updating of engineering and technologies, especially after the crisis; and
- 4) the introduction of technologies and know-how into the Russian market.

The implementation of policy is impossible without appropriate personnel. In former times there was a constant inflow of new staff from other regions. After economic reforms, the inflow was stopped almost completely. Higher salaries and more regular payments in the new enterprises have caused a migration to businesses of the most skilful and efficient persons, resulting in deteriorating staffing conditions for the former state enterprises.

Especially important is the problem of managers, who can be divided into two distinct groups. One group includes persons who cling to obsolete methods of management, whereas the second group consists of people with new ways of thinking more appropriate to the current conditions of transition to a market economy. The new style of managers is capable to work in new social frameworks, especially those consistent with sustainable development. However, there is a shortage of such managers.

FOREST POLICY AND FOREST CONSERVATION

Past experience has shown that the forest sector has caused considerable environmental problems in the course of the development process. In order to achieve ecological sound sustainable development it is desirable to integrate environmental objectives into a national development framework.

Environmental problems related to forest resource use have two main trends:

- 1) Disturbances arising in forests directly on the spot of forest resource use in the form of raw materials extraction, recreation, etc.; and
- 2) Disturbances occurring in forests due to forest fires, pollution, and the disposal, accidental discharge, storage and burial of wastes.

During the last ten years the RFE economy suffered from a deep crisis and manifested a decrease of productivity, resulting in a decrease of pollution and wastes production. However, the degree of the decrease in real pollution and discharge is smaller than that of the economic slump. And what is more, the lack of financing has resulted in a decrease of fire control and an expansion of the area of burnt forests.

The established forest use systems resulted in dramatic change in the forest resources, often exhaustion and complete depletion in some places. As a whole, the resource deterioration and long-term economic losses are rising.

An additional reason for forest resource transformation is pollution caused by industrial wastes or substances used in ecologically non-safe technologies. Such pollution reduces the potential forest-resource productivity. It manifests itself in various ways and as a rule accumulates, leading to both quantitative and qualitative changes. The forests lose their old-growth characteristics, become ecologically impoverished, and lose their tree density. Undoubtedly in such a vast and diverse region as the RFE, the degrees and types of forest resources transformation differ greatly. This fact along with differences in extraction or harvesting methods results in various degrees of acuteness of forest use issues.

The ecological capacity of the RFE especially in its northern and mountainous areas is relatively small, and the natural environment has indeed suffered serious damage. Moreover, these areas have enormous significance for preserving the biodiversity and a vital "cleansing" role in the general system of circulation for polluted air masses in the entire Northern Hemisphere. The RFE forests serve a particularly pivotal role in ecosystem stabilization. They protect the regional environment, about 3 percent of global land area. They also play a leading role in water protection and soil maintenance. This is especially important for the preservation of the unique Far Eastern salmon. However, the forests have been changed considerably by industrial cutting and forest fires. The problem of major forest fires in the RFE is known worldwide now, especially after fires in Khabarovskiy Krai and Sakhalinskaya Oblast in 1998 that covered about 2.4 million hectares. UN experts called them as global catastrophe.

The system of legislative, organizational, and technical measures for environment protection is being carried out in the Russian Federation as a whole, and in all RFE provinces. For example, since 1991 all cedarbroadleaf forests have been regarded as specially protected forests. Another example is the steadily increasing of area and number of natural reserves (*zapovedniks*) from 0.5 percent of the RFE area in 1980, to 0.7 percent in 1985 and 1.9 percent in 1998. Beside the natural reserves, which conserve all nature on their territories, there are some dozens of natural preserves (*zakazniks*) in which the use of only some animals, birds or plants are prohibited. Almost all natural reserves and all natural preserves are allocated to forested areas. In addition, there are 65.6 million hectares of protective forests. Altogether, the land prescribed for nature protection constitutes 12 percent of the region's area. However, the fact that in the RFE there are no any national parks illustrates once again that the regional and provincial systems of environmental protection are not maintained to a sufficient degree.

Both federal and local authorities try to implement measures to improve ecological situation. However long economic and some financial crises have made futile many legislative, institutional and financial measures. The lack of funds has resulted in the loss of comprehensive ecological management and control. Laws and decrees are not implemented with full force. Corruption has become very common in the whole of administration, especially in forest resource use where control is more difficult. The criminal black market has grown, including contraband from the RFE abroad.

Of course, efforts to launch new Russian ecological programs have been undertaken. In the early 1990s, the provincial authority adopted the "Ecological Program for Primorskiy Krai". The "Program on Reforestation and Forest Protection 1996-2010" was put into operation in Khabarovskiy Krai. Unfortunately, most of the programs are not adequately funded.

Adjacent countries and some international organizations are very interested in promoting ecological protection in the RFE because of the global role of its natural environment, and are prepared to invest funds into the ecological stability of the region. Programs have been implemented since the end of 1980s. There has been an increase of international ecological programs in the RFE, joint programs of foreign and Russian organizations. Five main types of foreign and international activity in the ecological sphere of the RFE can be identified:

- 1) "Very green", alarmistic propaganda and resistance to economic development;
- 2) Study, collection and dissemination of information;
- 3) Education and training;
- 4) Implementation of hands-on ecological projects; and
- 5) Supporting of ecologically sound business projects.

An example of the first type is the three-year struggle of the "Pacific Energy and Resources Center", a non-governmental organization (NGO) from California. The Center operates a special "Siberian Forest Protection Project" to prevent forest leases in the RFE by

large foreign companies, such as a case in Khabarovskiy Krai, involving Weyerhaeuser, one of the largest US logging companies. Such corporate involvement has not brought significant funds for the RFE, although according to estimates such bodies have spent a large sum of money for their operations. The positive results of this type of activity are that they attract public attention to current ecological topics and expanded Internet use for information exchange.

An example of the second type of activity is the three-year (1993-1996) Russia-China-US project, "A Program for the Environmentally Sustainable Development of the Ussuri River Watershed", that was completed with monograph and map, which consists of recommendations on land use improvement, especially forest land use, in the sense of ecological and economic sustainability. The cost of the project was about US\$ 1.5 million. The other example was a three-year project initiated by institutions of China, Japan, Mongolia, the Republic of Korea, and Russia for study of economic cooperation in Northeast Asia. One block of the project was devoted to natural resource use and environmental problems. It resulted in some international conferences and publishing of some books.

The third type of activity now embraces a wide circle of organizations, most of which are municipalities or NGOs. The types of activity are very diverse: special programs in kindergarten, ordinary schools, gymnasiums; establishment of television programs, production of video films, publishing of brochures and booklets; implementation of workshops and seminars; student exchanges, etc. Perhaps the brightest issue of the direction is many-years publishing of the Russian "Zov Taigi" (Taiga's Appeal) magazine that is prepared by Russian volunteers and financed by international funds. It has gained the sympathy of many local readers "who are not hurry up to Hawaii" (the motto of the magazine) and devotes many pages to forest conservation. The results of these activities are difficult to assess, however it is evident that 10-years of efforts manifest themselves now in a wider and more detailed common understanding of ecological problems by the local population.

The fourth type of activity includes some projects that plan and achieve concrete results. One of the well-known projects is the program for Amur tiger preservation. In fact, it is collection of projects. One of the main conditions for tiger preservation is the preservation of forests. So, the program includes a big forest block and it is continuing to this day.

Another example is the Russia-US "Russian Far East Sustainable Natural Resource Management Project" known also as EPT/RFE-project (Environment Policy and Technology, 1994-1998). USAID has spent for its fulfillment about US\$ 18 million. The project embraced Primorskiy and Khabarovskiy Krai and had three blocks: policy and legislation, forest management, and biodiversity conservation. Along with the project the Forest Code of Khabarovskiy Krai was developed, the first RFE functional zoning plan for the forested Chuguyevskiy Raion (district) was designed in Primorskiy Krai, and a forest greenhouse complex in Khabarovskiy Krai was completed, etc.

The project "Gassinski Model Forest" was put into the practice in Khabarovskiy Krai by an agreement between Russian and Canadian Forest Services. The term of agreement was 1994-1998. The Canadian side invested 3 million Canadian dollars. The project resulted in a high-class survey of the Model forest territory, design of a development plan, construction of modern offices, and procurement of some equipment.

The Russia-US program "Replication of Learned Lessons" started in 1997. In its frame are a draft of the "Forest Code of Amurskaya Oblast" and "Regulation of Forest Lands Transformation into Non-Forest Ones in Khabarovskiy Krai", construction of greenhouses in Primorskiy and Khabarovskiy Krai, etc.

The fifth type of activity does not have big impact at present. One of the programs is the Russia-US "Russian Ecological Partnership (REP)" which is devoted to ecologically sound business in the sphere of wood processing and production of non-timber forest products. The term of program is 1998-1999; total budget is US\$ 1.5 million.

The international ecological programs in the RFE are gradually taking on two new characteristics:

1. Whereas previous projects were mostly botanical, zoological and other programs with some social features, now most of them either include social-economic elements or are devoted to social and economic development with the obligatory ecological soundness.
2. Most of the former projects, especially the big ones, were directed to governmental organizations. At present, they are mostly allocated to NGOs. It became possible because the number of NGOs has grown (about 150 real organizations are acting in Khabarovskiy Krai alone) and some of them have accumulated successful finance and business results.

Among the new projects, one can mention the introduction of voluntary certification of timber products that are produced in the RFE, which takes into account voluntary certification in Europe promoted to move away from unsustainable to sustainable forest management. The success encouraged WWF to implement the same procedure in the RFE. Because Japan is the main consumer of RFE timber, the process is being launched now on both sides: organizing of certification cells among ecological NGOs of the RFE, and among the consumers associations of Japan. Time will show whether these efforts will be useful or not.

The World Bank is attempting to launch in Khabarovskiy Krai a Pilot Project for Sustainable Forest Use for both the local Forestry Service and for forest industry, with an estimated loan of US\$ 25 million.

The Canadian International Development Agency (CIDA) began in 1999 in Khabarovskiy Krai the project "Integrate Economic Development of the Nanaiskiy Raion" as an extension of the "Gassinskiy Model Forest Project". It is an economically and socially sound program in one of the forested aboriginal districts.

The large catastrophic forest fires in the summer of 1998 in the Khabarovskiy Krai and Sakhalinskaya Oblast attracted the attention of many international bodies including the United Nations, World Bank, etc. At present, some projects linked with forest fires are at the stage of preliminary discussions. USAID announced that it has allocated US\$ 500,000 for fire control projects.

It is expected that some big programs in the RFE, especially in forest areas, can start to promote carbon sequestration according Kyoto protocol.

To conserve biodiversity WWF began new a "Project of the Far Eastern Ecoregion" in the frame of the program "Global 200". The initial funding is US\$ 2 million and it will increase if the first phase succeeds. Forest use and conservation is a pivotal topic of the project.

As described here, in the RFE the system of international ecological programs is well developed and has become a significant part of the ecological management in the region. However, naturally, it cannot replace the local system of forest preservation that is supported with many efforts, especially the efforts of Forestry Services. Such a system exists and operates. In spite of difficulties and calamities during reforms, crisis, and transition to a new economic and political system, it survived and adapted to new conditions (Table 7).

Table 7. Volume of Forestry operations, 1997

| Territory | 1 | 2 | | 3* | 4 | 5 | 6 | 7 |
|----------------------|-----|-------|------|-------|------|-----|-------|------|
| | | 2a | 2b | | | | | |
| Sakha Republic | 28 | 40.0 | - | 185.7 | 0.1 | 39 | 2755 | 22.1 |
| Yevreiskaya Au. Obl. | 6 | 7.5 | 0.7 | 11.5 | 1.5 | 20 | 117 | 26.3 |
| Primorskiy Krai | 30 | 36.5 | 4.1 | 27.1 | 11.2 | 341 | 22074 | 64.6 |
| Khabarovskiy Krai | 43 | 107.1 | 8.1 | 125.5 | 17.0 | 200 | 15004 | 55.9 |
| Amurskaya Oblast | 23 | 34.7 | 3.0 | 36.2 | 5.0 | 20 | 5888 | 39.0 |
| Kamchatskaya Oblast | 11 | 5.4 | 0.6 | 6.0 | 0.1 | 10 | 511 | 17.7 |
| Magadanskaya Obl. | 10 | 4.5 | 0.1 | 7.9 | 0.1 | 12 | 68 | 20.4 |
| Sakhalinskaya Oblast | 22 | 18.2 | 3.2 | 18.5 | 3.2 | 65 | 6086 | 45.4 |
| Total RFE | 173 | 253.9 | 19.8 | 418.4 | 38.2 | 707 | 52503 | ... |

Source: Data Base of Economic Research Institute, 1998.

1: Number of Leskhozoes

2: Reforestation, thou. Ha, 2a: total 2b: Including Planting

3 Transfer of Young Stand to Forest Cover, thou. ha

4: Thinning of Young Stands, thou. ha

5: Treatment and Sanitary Cutting, thou. cu. m

6: Forest Revenue*, thou. rubles

7: Share of Earned funds in Financing of Forest Service, %

* 1996

Different indices have been proposed to estimate the successfulness of forest management. The best indices are the dynamics of forest area and wood stock (Table 8). As Table 8 shows the assessment is complicated. From one side, an increase of total forest area is evident. At the same time there exists a change of forest cover structure from conifers to deciduous, and especially to the less valuable bushes. Despite increases of area the wood stock is decreasing because of the logging of mature forests and appearance of young stands. Accordingly, it is only possible speak about partial effectiveness of current forest policy in the RFE from point of view of forest conservation.

Table 8. Dynamics of Forest Area and Wood Stock in the RFE

| Year | Forest Area, million hectares | | | | Wood Stock, billion cubic meters |
|------|-------------------------------|-----------|---------------------------|-------|----------------------------------|
| | Conifers | Deciduous | Creeping Forests & Bushes | Total | |
| 1983 | 198.6 | 26.2 | 41.2 | 266.0 | 21.7 |
| 1988 | 199.7 | 26.9 | 48.4 | 275.0 | 20.8 |
| 1993 | 196.9 | 29.0 | 47.8 | 273.7 | 20.4 |
| 1998 | 194.7 | 30.5 | 52.6 | 277.8 | 20.4 |

Source: Data Base of Economic Research Institute, 1998.

CONCLUSION

To summarize, it is possible to affirm that there are four streams of forest policy in the RFE. The first is official and formal. It consists of laws, decrees, programs, declarations, etc., that usually introduce the correct concepts and modern ideas, are directed toward rational forest use, and ultimately, toward sustainable development.

The second stream consists of the real activity of Forestry Service, which attempts to manage and control forest use, protection, and rehabilitation. However, with a lack of production factors many activities have been poorly implemented, leading to inadequate management of forest resources. In particular, large calamities have occurred relating to forest fires.

The third stream is the forest industry, which uses only unsustainable methods and is a very negative factor of forest policy. However, local authorities have no choice but to support these industries because of the social-economic situation. This stream generates the biggest conflict in the forest policy of the RFE.

The fourth stream is new but it is accumulating power very quickly. It is represented by local populations, communities, NGOs and international organizations. Their demand is to shift from destruction of forests and nature as a whole to conservation and sustainable development on the basis of ecological stability.

All streams have created a complicated and intertwined knot of conflicts and contradictions with very different interests of participants. Only time will show in what direction the knot move.

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