

Interim Report

IR-99-070

**Transition in the Forest Sector of the
Republic of Karelia**

Minna Piipponen (minna.piipponen@joensuu.fi)

Approved by

Sten Nilsson (nilsson@iiasa.ac.at)
Leader, Forest Resources Project

December 1999

Contents

1. INTRODUCTION	1
Research Framework and Restructuring of the Forest Sector	3
Community Issues and Sectoral Restructuring	5
Data Collection	6
2. FORESTS AND FOREST EXPLOITATION IN THE REPUBLIC OF KARELIA	8
Dominant Species and Forest Dynamics	9
Harvesting and Regeneration	11
Summary	13
3. THE ORGANIZATIONAL STRUCTURE OF THE FOREST SECTOR	14
Forest Management in the Republic of Karelia	14
Forest Industry Structure in the Republic of Karelia	17
Summary	19
4. THE FOREST SECTOR IN THE ECONOMY OF THE REPUBLIC OF KARELIA	20
Production in the Interviewed Enterprises	22
Timber Supply	24
Sales and Foreign Trade	26
Transportation Infrastructure	29
Summary	31
5. COMMUNITY ISSUES OF THE FOREST SECTOR	32
Education and Workforce	33
Workforce Issues Troubling the Enterprises	36
Summary	39
6. ENTERPRISES AND THE PROVISION OF LOCAL COMMUNITIES	39
Breaking the Provision Without Substitution	41
Summary	45
7. BUSINESS TRANSACTIONS OF THE ENTERPRISES	45
Investments and Bank Relations	45

Business Agreements and Payments	47
The Most Difficult Problems	50
What Should Be Done?	53
Summary	55
8. CONCLUSIONS	57
Forests and Their Exploitation	58
Formal and Informal Interaction of the Enterprises	58
Divergence of the Sector	59
REFERENCES	62
APPENDICES	69
Appendix 1. Questionnaire used in the Interviews with the Russian Forest Sector Enterprises	69

Acknowledgments

This report is one in a series of case studies of the institutional embedding of the Russian forest sector conducted as part of the Sustainable Boreal Forest Resources project at the International Institute of Applied Systems Analysis (IIASA) in Laxenburg, Austria. The work on the report was mainly done while the author was a participant in IIASA's Young Scientists Summer Program during the summer of 1999. Thus, my many thanks go to Sten Nilsson, leader of IIASA's forestry project and to the research crew engaged in the project's study on the Russian institutional framework, Lars Carlsson, Mats-Olov Olsson and Nils-Gustav Lundgren.

Much of the research work underlying this report would have not been possible without the help and patience of Svetlana Gurova in Petrozavodsk, the Republic of Karelia, Russia. She has collected much of the empirical data for the study by conducting interviews with the representatives of the regional forest sector and in general helped me with the data collection. I am very grateful to her. I would also like to thank my supervisor at the University of Joensuu, Finland, Markku Tykkyläinen and my colleague, Eira Varis, for the comments they provided on a draft of this report.

A version of this report will be subsequently published in *Fennia* 177:2 (1999).

About the Author

Minna Piipponen M.SSc. participated in IIASA's Young Scientists Summer Program (YSSP) in 1999. Minna Piipponen is pursuing a Ph.D. in human geography at the University of Joensuu, Finland. She is currently working as a project researcher at the Karelian Institute in Joensuu, Finland.

Transition in the Forest Sector of the Republic of Karelia

Minna Piipponen

1. Introduction

Since the beginning of Perestroika in 1986 there has been a significant decline in timber harvesting in Russia (Nilsson and Shvidenko, 1998:12; Kopylova, 1999a:345). On the other hand, Russia has abundant forest resources; here we find about one fifth of the world's timber resources and forested areas (Nilsson and Shvidenko, 1998:1). Strakhov *et al.* (1996:8) illustrate the importance of the area comprising the Northern economic region (the Republics of Karelia and Komi, Arkhangelsk, Vologda and Murmansk regions) and the Leningrad region for the Russian forest industry and international markets as follows: The total timber reserves in this area comprise about 10 percent of the Russian forest reserves. It used to produce about half of Russia's pulp and paper products, about one fifth of the sawn goods, and about 30 percent of the area's forest industry production is exported. However, during recent years only 40 percent of the production capacity in the forest industry has been used and, in 1994, merely 31 million m³ of the possible 80.5 million m³ was harvested (*ibid.*:8, 25). In the Republic of Karelia the harvested volume was 4.7 million m³ of the possible 8.6 million m³ in 1998 (Saastamoinen, 1999:23). These contrasts illustrate the basic motive behind this study of the regional forest sector in the Republic of Karelia. It is one among a number of case studies, which have a common goal of providing knowledge and insights on regional experiences that may contribute to policy making aimed at institutional restructuring of the Russian forest sector. This larger research effort is conducted as part of the Sustainable Boreal Forest Resources project at the International Institute for Applied Systems Analysis (IIASA). In this project the state of the current institutional framework and the restructuring process of the forest sector in various Russian regions are analyzed.

In addition to the demand from export markets, an increased demand for forest sector products might also be expected from future domestic markets (Burdin and Myllynen, 1999:28; Backman, 1998:37–38; World Bank, 1997:44). However, the basic hypothesis of the study is that clearer regulations and institutional arrangements are needed for the ability to sustainably use the potential of Russia's vast forests in order to meet future demand in domestic and export markets and to generate better socio-economic conditions for the population. By institutions we do not only understand formal laws and regulations but also informal rules. More precisely, *formal rules* include political, judicial and economic rules defining the hierarchy of polity, the basic decision structure and property rights, whereas *informal rules* are more like social constraints helping to solve problems in interactions not totally covered by formal rules (North, 1997:3). According to Pejovich (1998:23) institutions are “*legal, administrative and customary*

arrangements for repeated human interactions.” When it comes to economic performance, institutions affect it by determining, together with technology, the cost of transacting in exchange situations (North, 1997:1). Thus, they are needed because of the predictability and transparency they offer for the interactions.

Under current conditions, there are severe malfunctions in the institutional setting related to forestry and the forest industry impeding the strive of its actors to restructure towards a better capability of functioning in the market oriented environment. The forest management principles in Russia are built on classical European forestry and over 200 years of forest practice (Malmlöf, 1998:12–13; Nilsson and Shvidenko, 1998:1). On the other hand, there are legacies of overuse due to the former allocation and harvesting of forest resources in easily accessible areas and economic practices from the highly centralized planned economy, which have generated a sharp production decline and social hardship in those local communities that were entirely dependent on the sector when it hit the turbulent socio-economic transition and the overall economic decline in the 1990s (World Bank, 1997:27–28; Strakhov *et al.*, 1996:82–84). This study aims at examining the processes going on in the regional forest sector of the Republic of Karelia which generate shortcomings in the institutional setting of the sector and, thus, affect the progress of restructuring in the sector.

The institutional formation of the former Soviet Karelia began in the beginning of the 1920s in the young Soviet Union and, since then, it has been reorganized on several occasions throughout Soviet history. After the disintegration of the Soviet Union it became the Republic of Karelia in 1991.¹ In 1920, the Soviet Government passed a decree relating to the formation of a Karelian autonomous province called the Karelian Workers’ Commune. In 1923, it became the Karelian Autonomous Soviet Socialist Republic and in 1940, the Karelian-Finnish Soviet Socialist Republic which, however, was renamed again after World War II as the Karelian Autonomous Soviet Socialist Republic (Oksa and Varis, 1994:57).

During the 18th and 19th centuries the area was a poorly developed part of the Russian periphery where, however, sawmills began to develop (Laine, 1994:16). The era of NEP-policy in the young Soviet Union of the 1920s meant a powerful start in the utilization of forest resources in Karelia. According to Autio (1997), the economic development of Soviet Karelia based on forests was the priority of its regional leaders. However, the movement from the NEP-policy towards a planned economy at the end of the 1920s and the decisions of the central government of the Soviet Union in 1930, restructured the forest sector on an all-union basis and also made the developing forest sector of the former Soviet Karelia serve more strictly the rapid industrialization policy of the whole country. After that and until the current period of transition, the forest sector of the area developed under common central planning based on territorial and sectoral principles (World Bank, 1997:27, 149).

The present report consists of eight chapters according to the logic and methodology of the study outlined in the next two sections, which present the research framework, methodology and data collection. In chapter two, the main characteristics of the forest resources in the Republic of Karelia are discussed. Chapter three presents the formal

¹ Throughout the report we will sometimes use “Soviet Karelia” or simply “Karelia” as shorthand for The Republic of Karelia.

structural organization of the sector. This is divided into two sections according to the main division of the forest sector in Russia, namely, forest management and forest industries. The next chapter discusses the role of the forest sector in the economy of the Republic and examines more closely production, raw material supply, sales and transportation infrastructure issues of the sector. Chapters five and six concentrate on the attributes of the Karelian community. The focus is first on human capital issues, after which the connections between enterprises and local communities are studied more closely. Chapter seven concentrates on a discussion about business transactions of the enterprises in light of investments and bank relations, business agreements and arrangements of payment, as well as the most serious problems and suggestions for future policy as perceived by the actors themselves. The last chapter draws together the findings for restructuring the sector.

Research Framework and Restructuring of the Forest Sector

Because the subject matter of the study comprises not only *formal rules* but also the *rules in use* that actually guide the activities in the sector, a suitable starting point for analysis is offered by the *Institutional Analysis and Development framework* (IAD). The framework is broad enough to be compatible with a range of theories and it is a suitable analytical tool for examining the sets of rules and actors involved in the sector. It also serves the practical purpose of this study to enhance knowledge of the real conditions in the Russian forest sector with the help of studies conducted in the different regions of the vast country. Being a part of a larger research effort, the study should also aim at offering knowledge that is compatible with the other case studies.² The IAD framework is discussed in detail in Ostrom *et al.* (1994). (For its connection to regional case studies of the Russian forest sector see Carlsson and Olsson, 1998.) Here the points based on the above mentioned sources, which serve as an analytical tool for this study, will be briefly presented.

The “starting point” of the framework is the *action arena*, which in this case is the forest sector of the Republic of Karelia. It is composed of *actors in action situations*. Actors as participants in action situations have positions and they perform according to their abilities in those particular positions. Action situations involve important features such as *outcomes* that participants can potentially affect with their actions, *information* that they possess in their positions at the current stage of the process, and *costs and benefits* assigned to actions and outcomes. Actors have preference evaluations that they assign to actions and outcomes, capabilities to process information, selection criteria for particular actions, and resources they bring to the situation. The described components form a set of relations, *patterns of interactions*. Further, actions in the action arena are understood to be affected by three attributes: *the physical world*, *community* and *rules-in-use*. Attributes of the physical world comprise the structure and amount of forest resources. Community issues are examined on two levels. Community issues of the sector comprise human capital, such as education, skills and other workforce related issues, affecting the actions taken in the forest sector. In addition to this, provision of social responsibilities in local communities and relations between the sectoral restructuring and local communities are scrutinized. Altogether, the study examines the

² Other regions included to the research project are: Arkhangelsk, Khabarovsk, Irkutsk, Moscow, Murmansk, Tomsk and Krasnoyarsk.

real patterns of interaction among the actors on the action arena, actual rules-in-use, not the *supposed* behavior; how and why various actors organize their relations in the sector? And, how the action situations produce certain *outcomes*, i.e., shortcomings in the various kinds of institutional features which affect the links between actors in the regional forest sector.

Explanations of the actors' interactions in relation to the attributes of the forest resources, community and rules-in-use, as well as the outcomes from those interactions are supposed to give a basis for evaluating the positions of the actors in their journey from the planned economy towards a functioning market system. What is it in the institutional setting that affects the restructuring process? This broad evaluation criterion is examined with the help of a set of indicators generated from the themes of the interviews conducted among the actors. The themes deal with:

- production and workforce;
- raw material supply;
- sales;
- social responsibilities and community issues;
- investments and bank relations;
- payments and agreements; and
- problems and development proposals as perceived by the actors of the sector.

In geographical and regional studies, the term restructuring has been used on different levels of social and economic interaction, from enterprise behavior to descriptions of structural, economy-led changes in a society, including the countries in transition, even if it is always a question of a process that leads to a different or new state of the system under study (Neil and Tykkyläinen, 1998:7). This study concentrates on the present situation of the regional forest sector scrutinizing the restructuring process, the possible opportunities generated through the implementation of policies in the sector, and the reactions of the actors on these policies.

According to Ickes *et al.* (1997:107) the decision of the economic actors regarding the choice to restructure is a kind of investment problem. This is understood in a broad sense as meaning activities which involve current sacrifice for future rewards with uncertainty connected to the rewards, and not only physical investments but also such actions as reorganization of the enterprise, moving to new markets, new arrangements in methods of contracting, etc. Uncertainty is, of course, present in every investment problem, also in restructuring efforts in other countries, not only in post-socialist societies. However, in the restructuring going on in this environment an extra degree of uncertainty exists, under which economic actors have to take irreversible investment decisions (*ibid.*:108). The extra degree of uncertainty has to do with the fundamental societal restructuring. In addition to the "normal" structural change there is also a transformation to a different social system. This kind of restructuring is called a *transition* (Varis, 1998:23).

Given the circumstances outlined above, many alternatives to investing resources for restructuring may seem tempting. One would be to wait and keep on with familiar activities and practices as long as possible. This would mean concentrating on surviving with the help of "inherited" relations with other enterprises and authorities familiar from

the times of central planning, instead of trying to narrow the distance to the market (Gaddy and Ickes, 1998:9–10; Melin, 1998). In accordance with the views of institutional economics on the Russian transition the formal rules, including political, judicial and economic regulations, were destroyed through the disintegration of the Soviet Union. While formal rules started to change rapidly, the informal social rules, constraints and conventions inherited from the Soviet times, have continued to be in use in Russia, where there is no pre-communist heritage of a market economy and democracy (North, 1997:11–12; Tykkyläinen and Jussila, 1998:233). The forest sector has not been an exception in this respect.

Community Issues and Sectoral Restructuring

The discussion about restructuring the forest sector is connected to the transformation in local communities. In the IAD framework this issue is part of the *community attributes*, under which the actions in the action arena of the regional forest sector take place. Settlements around the production units are examples of such resource communities. The term is used in research to define local communities in which the common economic base sustaining the community is the unifying social tie, and the communities are specialized in the global system of production and consumption on either extraction, processing or supply of natural resources (Tykkyläinen and Neil, 1995:32).

One legacy of the former Soviet Union regarding community issues is the *paternalistic relation* between the enterprise and the inhabitants of industrial settlements, as well as the residential conditions produced by the socially unsustainable settlement planning and construction (Gur'eva and Bondarenko, 1996; Romanov, 1998:20–21). In addition to their central economic role in local communities the enterprises have been the providers of services, infrastructure and housing for the settlements. Thus, the restructuring of the forest sector is partly affecting the restructuring of local communities today (cf. Neil and Tykkyläinen, 1998:7). The reorganization of production activities and the discontinuation of auxiliary activities, which are not seen to be part of the business activities of the enterprises pursuing a more market-led behavior or just trying to survive, fundamentally changes the organization of the local resource communities. This is one reason why it is also worth concentrating on community issues and even on the local level when examining the restructuring of the regional forest sector. It emphasizes the nature of the restructuring going on in this environment. It is not just a question of economic restructuring but the process is entangled with larger societal changes.

Also in the context of institutional economics this approach has some merits. Freinkman and Starodubrovskaya (1996) and Struyk *et al.* (1998) point out how the development of social responsibilities in connection with the reorganization of the former state enterprises in Russia proceeds in its own manner despite the laws and regulations enacted to guide the procedures. The actual changes in the enterprises' provision of social services are determined by the main players on the regional and local levels, including the regional and the local authorities as well as enterprises, and by their balance of interests and bargaining powers (Freinkman and Starodubrovskaya, 1996:8). Thus, settlements and their provisions are still, at least to some extent, part of the multiple interdependencies inherited from the Soviet period with which the enterprises grapple today.

In the view of what has been stated above, it should be obvious that there is a need for studies to be conducted on the local level, studies of the reactions of the actors in the action arena. There is less exact information about the rapid ongoing changes on the macro level and this makes it impossible to entirely lean on large surveys and well documented facts in the context of restructuring efforts taking place in transition (Varis, 1998:23–25). By concentrating on both policies implemented in the forest sector and on the reactions of the actors, this study combines two approaches.

Data Collection

Tracing the timber from the forest to the market has been the guiding idea for the collection of empirical material for this study. However, the final consumer markets for end products, such as paper, tissue, cardboard, etc., are excluded from this chain of links. This constitutes the action arena of the region's forest sector starting from timber supply, eventually — via harvesting — reaching the processing industry, although the physical chain of the resource transformation proceeds beyond this point (Figure 1:1).



Figure 1:1. The demarcation of the forest sector in the study. (Source: modified from Carlsson *et al.*, 1999:10)

The empirical material used can be divided into two groups:

- 1) So-called background material, i.e., information regarding the forests, the socio-economic situation of the region, economic geography and formal administrative structures connected to the forest sector, has been collected from several statistical and secondary sources.
- 2) Interviews have been conducted with managerial representatives of forest enterprises and organizations in the Republic of Karelia (see Appendix 1). The guiding idea of data collection was implemented in selecting the representatives for the interviews so that they would reflect the different stages of production of the regional forest sector and its various branches. Forest management, harvesting, processing and intermediary enterprises, as well as large and small and old and new enterprises, were selected for the interviews (Table 1:1). The average number of employees in the interviewed enterprises was 348. The smallest interviewed enterprise had four employees and the largest 1,652.

Table 1:1. Interviewed enterprises by their activity and year of establishment in the Republic of Karelia.

Activity	No. of enterprises in the sample	Year of establishment	No. of enterprises in the sample
Forest management	4	1920–1939	10
Harvesting	12	1940–1959	15
Sawmill and Wood Processing	10	1960–1989	1
Pulp and paper	3	1990–	9
Trading and Consulting	2	Total*	35
Harvesting/Sawmill and Wood Processing	5		
Total	36		

*missing value 1.

Source: IIASA Institutional Framework Database.

The interviews were conducted between June and December 1998. The total number of interviews is 36 and the number of interviewed enterprises 34. In two enterprises interviews were conducted at both headquarter and sub-unit level. In this way it was possible to get more local information and, especially, information regarding the relationships between the restructuring process of the forest sector and the local communities. Both of these sub-units were connected to the same forestry village.

Respondents, i.e., representatives of the enterprises and organizations were usually managing directors but in some cases the head economist, the accountant or assistant were present during the interviews. In eight interviews, the respondent was not the managing director but someone belonging to the managerial or foreman category of the employees.

Conclusions solely based on the interviews can only be generalized to the interviewed enterprises themselves because they are not statistically representative. But, by adding this information to the broader set of data depicted here, and concentrating on the various kinds of institutional features affecting the links of the chain, the results of the analysis should be relevant for the regional forest sector as a whole. The material gives empirical evidence of the existing processes going on in the institutional arrangements of the regional forest sector and their influence on actors' abilities to function in a market oriented environment. By asking about the real practices and opinions of the representatives of the sector — the actors themselves — this study, together with the other case studies from different regions of the Russian Federation, represents a new way of improving our knowledge of the conditions in the Russian forest sector.

2. Forests and Forest Exploitation in the Republic of Karelia

In this chapter an overview is provided of the forest base in the Republic of Karelia. More detailed information of the forest resources is available in other studies.³ Those studies have also been extensively used in this chapter.

The Republic of Karelia belongs to the Northern Economic Region of the Russian Federation together with Murmansk, Arkhangelsk and Vologda regions, or *oblasti*, and the Republic of Komi. The Northern Economic Region, together with the Leningrad region, form an important forestry and forest industrial area within the Russian Federation (hereafter called North-west Russia). Although most forest resources are located in the Asian part of the country, this area plays a strategic role especially in the processing industry of the Russian forest sector. But the resource base is also extensive, close to 86 million ha, compared to 19.5 million ha in Finland and 22 million ha in Sweden (Strakhov *et al.*, 1996:8,82; Kuusela, 1998:13). Table 2:1 summarizes the main characteristics of the forest resources in Russia, North-west Russia and in the Republic of Karelia (cf. Strakhov *et al.*, 1996:8,14).

Table 2:1. Forest resources in Russia, North-west Russia and Republic of Karelia.

Forest Resources	Russia	North-west Russia	Karelia
Total forest land, mill. ha	1,180.9	85.7	9.8
Growing stock, billion m ³	80.7	8.8	0.9

Source: Strakhov *et al.*, 1996:8,14.

There are some concepts and divisions determined by economic and ecological importance, as well as designed use of the forests in Russia and in the Republic of Karelia. First of all, forest land (Table 2:1) together with non-forest land make up the forest fund, *lesnoi fond* (Kopylova, 1999a:343). It is mainly managed and controlled by the Federal Forest Service of Russia (FFS) through its regional organizations, such as the State Forest Committee of Karelia. Non-forest land also includes grassland, pastures, bogs, etc. (*ibid.*). Of the total forest fund managed by FFS, 35 percent (5.1 million ha) are non-forest lands in the Republic of Karelia (Lesnoi fond Rossii, 1995:20). Furthermore, the forest land consists of forested areas and unforested areas, such as burned areas, damaged stands, glades, etc. (Kopylova, 1999a:343). Dividing the Russian forests into management groups (I, II and III) is a long-established custom. Basically, Group III comprises the forests of a significant industrial potential and Group I forests are beyond industrial use, or totally without use, whereas Group II forests are also mainly protected, but with restricted industrial use (Strakhov *et al.*, 1996:9).

In addition to the forest resources managed by the FFS there are some forests that are managed by other authorities. In the republic of Karelia, almost all (98.6%) of the total forest land is controlled by the FFS and its regional organization (Table 2:2). In the

³ See, e.g., Myllynen and Saastamoinen, 1995; Strakhov *et al.*, 1996; Burdin *et al.*, 1998.

whole of Russia the FFS manages about 94 percent of all forest lands, 4 percent belongs to agricultural organizations, 1 percent to the environmental authorities and 1 percent to other state bodies (Burdin *et al.*, 1998:16).

Table 2:2. The distribution of the forest fund and forest lands in the Republic of Karelia by management groups and managing authorities (1,000 ha).

	Group I	Group II	Group III	Forest Land
FFS	3,171.0	4,481.8	7,121.9	9,657.9
Ministry of environment and Natural Resources	58.3	0	0	39.9
Other organizations	64.5	24.3	7.8	94.7
Total	3,293.8	4,506.1	7,129.7	9,792.5

Source: Strakhov *et al.*, 1996:14.

The distribution of forest land by the managing authorities in the Republic of Karelia differs from the few surrounding regions. In the Leningrad Region, 75 percent of the total forest land is managed by the regional Forest Committee, and in the Vologda region the corresponding figure is 69 percent. The second important forest manager are agricultural organizations (state and collective farms) managing 19 and 30 percent of the total forest land respectively. In the Republic of Komi and the Murmansk and Arkhangelsk regions, the distribution is more like that of the Republic of Karelia (Strakhov *et al.*, 1996:14).

Dominant Species and Forest Dynamics

About 60 percent of the Karelian Republic belongs to the Northern Taiga and 40 percent to the Middle Taiga vegetation zones where the forests are mainly composed of pine and different spruce and birch species. To some extent aspen, larch and grey alder also exists (Lesnoi Fond Rossii, 1995:84; Strakhov *et al.*, 1996:15–17). The distributions of the main tree species is illustrated in Diagram 2:1.

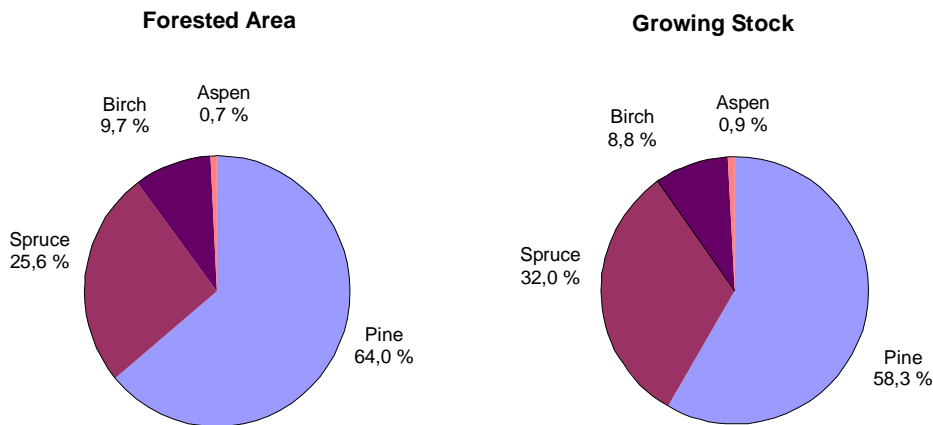


Diagram 2:1. Distribution of the main tree species in the Republic of Karelia (% of forested area, % of growing stock).

(Sources: Lesnoi Fond Rossii, 1995:84; Strakhov et al., 1996:16)

In the whole area of North-west Russia coniferous tree species cover 79 percent and deciduous 21 percent of the growing stock (Strakhov *et al.*, 1996:17). The figures of the Republic of Karelia differ to some extent. Here the share of coniferous species is around 90 percent (Figure 2:1). There are, however, territorial differences. In the northern part of the Republic the main species is Scots pine which also forms mixed forests with spruce, and the main species of the southern part of the Republic, spruce, has had to give way to deciduous species due to the cuttings that took place in the old spruce forests during the decades of powerful forest exploitation after World War II (Myllynen and Saastamoinen, 1995:36).

Powerful wood harvesting has also changed the age structure of the forests⁴ since the middle of the 1960s (Table 2:3). The area covered by mature and over-mature forests has decreased from 65 percent of the forested area in 1956 to 32 percent in 1993 and the share of young stands has increased, while the share of middle-aged and advanced stands has stayed approximately on the same level. In 1988, the share of mature and over-mature stands of the total growing stock (807.2 mill. m³) was 51 percent in the Republic of Karelia. Since then the total volume has grown slightly but the share of mature and over-mature stands stayed on the same level until the beginning of the 1990s (Sinjaev, 1990:6; Myllynen and Saastamoinen, 1995:42–43).

⁴ Forests are classified into five development classes by age. Coniferous species are divided into classes spanning 20 years and deciduous species into classes spanning 10 years (Strakhov *et al.*, 1996:17).

Table 2:3. Forested areas by development classes in 1956–1993 in the Republic of Karelia (Percent).

Age classes	1956	1966	1988	1993
Young stands	11	14	39	39
Middle-aged stands	15	22	20	21
Advanced stands	9	8	8	8
Mature and over-mature stands	65	56	33	32
Total	100	100	100	100

Sources: Sinjaev, 1990:6; Myllynen and Saastamoinen, 1995:42; Strakhov *et al.*, 1996:19.

Different age groups are not evenly distributed over the territory of the Republic. According to Kozlov (1994:92–93) the shares of mature and over-mature stands amount to 35–50 percent of the forested area in the more densely forested districts of Loukhi, Kalevala, Muezerskii and Pudozh. In some southern parts of the Republic, in the districts of Kondopoga, Prääzhä, Prionezhkii and Olonets, this share is only 15 percent. Furthermore, during the last few decades the total growing stock of the deciduous species has increased by 93 percent, whereas the total growing stock of coniferous species has fallen by 26 percent. This has occurred in such a way that both the increase and decrease have mostly affected older age classes.

In comparison with the whole federation, the forests of the Republic of Karelia contain a lower share of mature and over-mature stands. According to Strakhov *et al.* (1996:18), this share is 46 percent of the area and 57 percent of the growing stock in forests of the Russian Federation. In comparison with the neighboring regions, the share of mature and over-mature stands in the Republic of Karelia is approximately the same as in the Leningrad and Vologda regions, but considerably lower than in the Murmansk region and, particularly, in the Arkhangelsk region and the Republic of Komi with shares of 42, 59 and 63 percents, respectively (*ibid.*:19). Myllynen and Saastamoinen (1995:43) forecasted that this kind of development of forests in the Republic together with the continuation of the recent methods of forest utilization will generate problems because there are not enough advanced stands to prevent the exhaustion of mature forests in the future. On the other hand, considering forest incrementation the increase of younger forests is a positive development (*ibid.*:46).

Harvesting and Regeneration

The volume of annual wood harvesting in the Republic of Karelia was at its highest at the end of the 1960s when about 20 million m³ were harvested annually within a limit of an annual allowable cut (AAC) of 30 million m³ (Strakhov *et al.*, 1996:23). Nowadays, the volume of annual wood harvesting is approximately one fourth of the level in the 1960s and the AAC for the period of 1994–2000 has been set to 8.6 million m³ (Saastamoinen, 1999:23). The downward development has been significant during the 1990s. In 1991, 8 million m³ was harvested and in 1998 harvesting amounted to 4.7 million m³, which is about 55 percent of the AAC (*ibid.*). In addition to final felling, thinning and sanitation cuttings are implemented and some commercial wood is also

obtained from this (Table 2:4). Of the total volume of final felling in 1994, 5.4 million m³ was obtained from clear cutting (Strakhov *et al.*, 1996:29). This is equal to 95 percent of the total volume of final felling.

Table 2:4. Harvesting by forest management groups and felling types in 1994 in the Republic of Karelia.

Area, ha / Volume 1,000 m ³	Group I	Group II	Group III	Total	Commer- cial Wood	Conifers
<i>Final felling**</i>						
Area	4 712	10 014	22 393	37 119		
Volume	721*	1 714*	3 269*	5 704	5 704	4 070
<i>Tending cutting, selection and sanitation felling***</i>						
Area	5 608	14 568	11 275	31 451		
Volume	159*	129*	22*	461	310	194
<i>Other felling</i>						
Area	1 490	976	2 151	4 617		
Volume	28*	65*	129*	236	222	199
<i>Total</i>						
Area	11 810	25 558	35 819	73 187		
Volume	908*	1 908*	3 420*	6 401	6 236	4 463

* Commercial wood.

** Includes clear cutting and gradual and selection felling.

*** Includes cleaning and early thinning, selection sanitation felling and roads, electric lines, etc.

Source: Strakhov *et al.*, 1996:29.

Previously it was quite common that the annual allowable cut was exceeded by 10–20 percent in old coniferous forests, whereas about 60 percent of hardwood was left unharvested (Strakhov *et al.*, 1996:23). The method of clear cutting has also usually been used in Group I forests (Myllynen and Saastamoinen, 1995:49).

According to several federal and regional regulations planting, sowing and assisted natural regeneration are implemented as forest regeneration methods on logging sites, burned areas and glades (Strakhov *et al.*, 1996:32). By planting and sowing artificial stands are established. However, the area of annual artificial regeneration has decreased during the 1990s (Table 2:5). In 1996, only about a half of the area regenerated in 1991 was regenerated in the Republic of Karelia.

Table 2:5. Forest regeneration in the Republic of Karelia in the 1990s (1,000 ha).

Regeneration	Average annual area 1966–1989	1991	1995	1996
Artificial	45.7	23	16	13
Natural	28.7	24	40	23
Total in the forest fund	74.4	47	56	36

Source: Strakhov *et al.*, 1996:35:38; Goskomstat RK, 1997:58.

The average annual clear-cut area between the years 1966–1989 was 86,400 ha (Strakhov *et al.*, 1996:35, 38). The total regenerated area amounted to 86 percent of the clear-cut areas (Table 2:5). During the 1990s, the relation between artificial and natural regeneration has changed in favor of natural regeneration. Especially in the middle of the 1990s, natural regeneration increased but declined again after that. However, it has kept its higher share compared with the share of artificially regenerated areas (Table 2:5).

The wood harvesting branch has preserved its typical structure of organizing the activities of the *lespromkhozy* since the Soviet period. The harvesting companies have several harvesting units called *lesopunkty* under their subordination and also subordinate units to *lesopunkty*, *masterskie uchastki*, situated near the resource itself. The harvesting units typically consist of logging areas, a series of tracks and roads of different life spans along which timber is first skidded from the logging areas to upper landings, transported with trucks from there to the lower landing and from there by railway further away. In addition, there is a repair and maintenance department (garage) (illustrated in detail in Blandon, 1983:58–61; Strakhov *et al.*, 1996:58). This territorial structure is usually connected to tree-length harvesting methods with outdated machinery designed for large scale clear cutting. Full length logs are transported to the lower landing where they are sorted and cut to the required length. The machinery together with the structure of the forests shaped by the harvesting methods are considered a big problem, especially regarding the need to shift to intermediate felling methods and cut-to-length system, i.e., so-called Scandinavian technology. The story of one interviewed enterprise in Karelia presented in chapter five also illustrates the problems in organizing harvesting.

Summary

The situation regarding the main attributes of the physical world, the forest resources and the possibilities for their exploitation in the Republic of Karelia, can be summarized as follows:

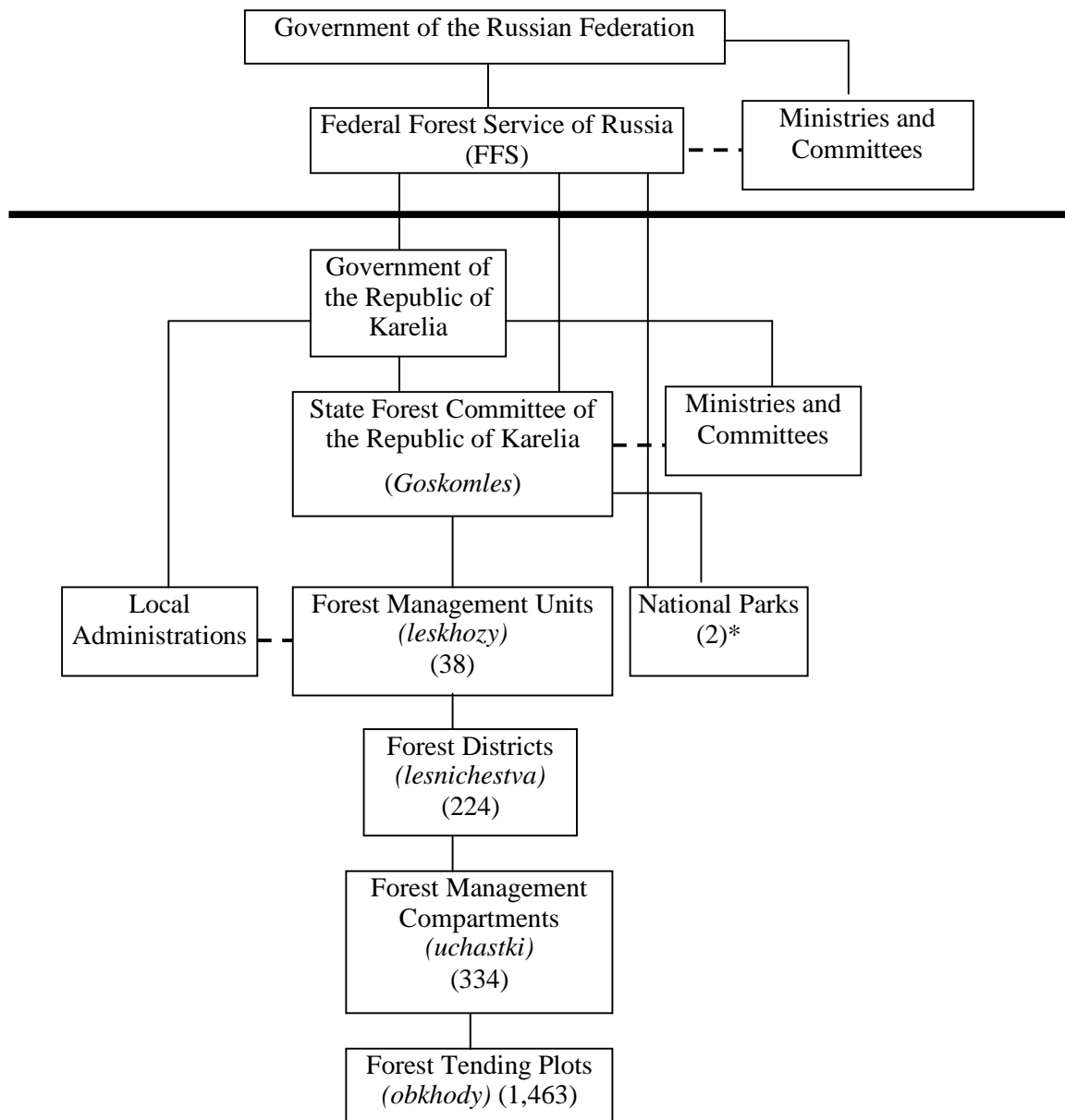
- The Federal Forest Service of Russia controls almost all of the forest resources in the Republic of Karelia through its regional organization.
- The situation during previous decades, characterized by an extensive use of resources based mainly on large-scale clear cutting, has changed the structure of the region's forest resources, which should draw attention to the methods of future resource exploitation.
- With respect to the relation between the methods of forest exploitation and future possibilities, increased territorial differences in the structure of the resource base inside the Republic can also be observed.
- There is a lot that needs to be reorganized at the enterprise level concerning forest resources and their possible future exploitation. In between there is a need for technological investments.

3. The Organizational Structure of the Forest Sector

This chapter mainly depicts the formal institutional structure relating to the forest sector in the Republic of Karelia. The overall institutional development and the current structure of the Russian forest sector, as well as the current structure of the regional sector in Karelia are discussed in several publications (cf. Blandon, 1983; Myllynen and Saastamoinen, 1995; Strakhov *et al.*, 1996; World Bank, 1997; Malmlöf, 1998; Carlsson *et al.*, 1999). There is no need to repeat everything that has been stated in those studies, apart from what is needed for the purpose of this chapter, i.e., to provide a basis for the examination of the interaction between different actors in the regional forest sector, to emphasize the main points of the change in the regional system during the transition period. Thus, if not stated otherwise, the information in this chapter is based on the above mentioned publications.

Forest Management in the Republic of Karelia

Forest management, control of forest use and protection are still implemented by state organizations through a hierarchical system from the central level down to the regional and local levels. The structure of this system for the Republic of Karelia is presented in Figure 3:1. The Federal Forest Service of Russia (FFS) is based in Moscow and is subordinated to the Russian government. The FFS establishes the federal policy and development for the system of forest use, control and forest management. It is responsible for the organization of this system by preparing the federal legislation, for its interregional and intersectoral coordination and regulation, as well as for international cooperation in the field. It conducts research, forest resource inventories and planning. The FFS has, in its subordination, regional state organs of forest management in the various subjects of the federation. In the Republic of Karelia the State Forest Committee, *Goskomles*, operates as the highest regional forest authority and administrative unit of the region. At the same time, it is subordinated to the FFS and the government of the Republic. In practice, forest management takes place in 38 state enterprises, *leskhozy*, i.e., forest management units, divided into forest districts, *lesnichestva*, forest management compartments, *uchastki*, and further into forest tending plots, *obkhody*.



coordination - - - - -

* The national park of Lake Paanajärvi is administrated by both the FFS and the State Forest Committee of the Republic. Vodlozerski national park is administrated by the FFS, one part of it is located on the territory of the Republic, the other part on the territory of the Arkhangelsk region.

Figure 3:1. Organization of forest management in the Republic of Karelia. (Sources: Strakhov *et al.*, 1996:49–52; World Bank, 1997:150; Oy FEG., 1997:5–30; Kopylova, 1999b:334–335.)

The FFS and its regional organs cooperate with other federal ministries and committees, especially with the State Committee for Environmental Protection, the Ministry of Natural Resources and the State Committee for Forest, Pulp and Paper Industry. They also collaborate with corresponding sectoral organs on the regional level and with law enforcing organs, local administrations, enterprises and public organizations.

The federal Forest Code, the Civil Code, and other federal legislation and regulations together make up the Russian forest legislation. In addition, the Subjects of the Federation (such as republics and regions) might have their own legislation and regulations. However, these should not be in contradiction with federal laws regulating the matter in question (Lesnoi Kodeks, 1997:article 1). Forests are still owned by the state and forest lands have not been privatized. However, the new law has been criticized for being ambiguous regarding the jurisdiction between the Federation and its Subjects (Kopylova, 1999b:334).

The main forms of usufructs in the federal legislation concerning the industrial utilization of forest resources are leasing, concession⁵ and short-term use (Lesnoi Kodeks, 1997:articles 31–45). These usufructs can be granted based on the results of forest competition procedures (leasing), forest auction procedures (short-term use), auction or forest competition and decision of FFS (concession) and on the decisions made by the authorities of the Subjects of the Federation (leasing for 1–5 years, short-term use). Based on these procedures the forest user will be granted a harvesting license and can begin harvesting in the allotted site. The main organs implementing the allocation procedures of forest resources to the users are the *leskhozy*, the State Forest Committee and the Government of the Republic.

The Republic of Karelia has its own legislation and regulations concerning forest use. A forest law was enacted in 1992 and was modified in 1993 and 1995. In addition, there has been legislation regarding the forms of usufructs, forest payments and auctions. The definitions of ownership and authority differed between the republican and the federal regulations (Strakhov *et al.*, 1996:47). However, after the adoption of the new Federal Forest Code, there has been a transformation going on regarding the regional forest regulations. New regulations to replace the abandoned ones are being prepared and meanwhile work in the forest sector is based on federal regulations, although, for example, forest auction is a new phenomenon appearing mainly during 1999.⁶ According to Strakhov *et al.* (1996:43), auction practices have given varying results during the 1990s due to shortcomings in the dissemination of information and lack of potential forest users. Based on the information given by the enterprise interviews it seems that short-term forest use permissions and lease agreements granted by the decisions of the respective authorities have been the main basis of usufructs for harvesting enterprises. Thus, there are reasons to assume that the conditions for competition between different forest users are not entirely fair and equal. At least the

⁵ Concession is used for the period of 1–49 years according to agreements between the Russian government or an authorized federal executive body and the forest user. Concession is intended for forest areas which need infrastructural investments for exploitation (Lesnoi Kodeks, 1997:articles 37–40; Kopylova, 1999b:338).

⁶ Personal communication in May 1999 by Mikhail V. Nikolaev, the Department of Forestry, the Forest Committee of the Republic of Karelia to Minna Pappila, Faculty of Law, University of Turku.

non-auction procedure offers possibilities for barriers of entry since the granting of the usufructs to forest users is based on their long-established activities in the territory in question and possessing enough of industrial capacity for harvesting and processing of timber and other forest resources (cf. Lesnoi Kodeks, 1997:article 34; World Bank, 1997:173).

The funding of forest management, protection and other activities which are carried out by the *leskhozy* comes through federal and regional budgets, and the *leskhozy* can partly have their own means of funding (Lesnoi Kodeks, 1997:article 105; Kopylova, 1999b:338). First, the federal government sets the minimum stumpage fee for sold wood. Regions can add their own share to this minimum fee. In the Republic of Karelia, 1.5–2.3 percent of the minimum fee is added and the collected forest taxes and payments go to the federal and regional budgets, 40 percent to the federal budget and 60 percent to the regional budget.⁷ The representatives of the interviewed *leskhozy* in the Republic of Karelia, however, emphasized that the resources they currently receive through the budgets are not enough to keep their activities afloat. They need additional finance for investments or even for paying salaries. Such additional resources may be obtained by selling timber from thinning and sanitary felling that the *leskhozy* are entitled to perform. They can also make contracts with harvesting companies regarding the actual harvesting works if the *leskhoz* does not have the necessary machinery or manpower.

Forest Industry Structure in the Republic of Karelia

Unlike forest management the forest industrial sector in Russia has undergone turbulent organizational changes which began in the period of *perestroika* and accelerated during the 1990s — from ministerial reorganizations and corporatization to reorganizations of regional sectors and enterprise units.⁸ Although the changes already took place several years ago the following quotation still illustrates the situation well (Strakhov *et al.*, 1996:77):

In order to understand the present processes in the forest sector, especially in forest industries, we must assess the significance of the loss of controlling mechanisms at all levels — from federal to local. Links between technology, production and organizations were established over many decades, but they collapsed in a far shorter time and almost in unison. They could not be preserved nor could they be smoothly transformed into new commercial mediatory structures.

In the Republic of Karelia the structures of the former Soviet period under the Ministry of Forest, Pulp and Paper and Wood Working Industries culminated in 1986 in the formation of the *Gosudarstvennoe ob'edinenie Karellesprom*. This culmination brought into being the regional production complex that merged forest management organizations with harvesting and processing enterprises, as well as some other organizations dealing with forestry and foreign trade, such as *Karelmelioratsiiastroi*, *Karellesoeksport*, and the forest research institute *KarNIILP*. Accordingly, the forest management units, *leskhozy*, and the state-owned harvesting enterprises, *lespromkhozy*,

⁷ Personal communication in May 1999 by Mikhail V. Nikolaev, the Department of Forestry, the Forest Committee of the Republic of Karelia to Minna Pappila, Faculty of Law, University of Turku.

⁸ See Lehmbruch (1998) about the ministerial reorganizations on the federal level.

were merged together as *kompleksnye lespromkhozy*. The complex comprised 62 industrial enterprises, 32 *leskhozy*, 8 forest amelioration units, 4 construction units and 11 other organizations (Sinjaev, 1990:25). More than 90 thousand people worked in the enterprises and organizations belonging to *Karellesprom* and the complex managed 97 percent of the forest area (Myllynen and Saastamoinen, 1995:96–97). In practice, this was the Karelian forest sector.

In the 1990s, the disintegration of the Soviet Union and the subsequent transition economy broke up this structure. The *kompleksnye lespromkhozy* and processing enterprises were privatized, usually becoming joint-stock companies (Goskomstat RK, 1997:12). In this process the forest management acquired its previous independence in relation to the forest industry and it is, as described in the previous chapter, still a state-led branch. The years of transition have been hard for the forest industrial sector as well as for other industrial sectors in the Republic of Karelia. In 1997 (January–November), 77 percent of the enterprises in the forest industrial sector were unprofitable (Goskomstat Rossiiskoi Federatsii, 1998:18).

The role of *Karellesprom* changed during the privatization process. It was reorganized into a form of holding company, according to the Presidential Decree No. 1,392 issued in November 1992 (Romanov, 1995). This rule changed the structure of the intermediary level between the central, federal organization and the individual industrial enterprises in the Russian forest sector. *Karellesprom* itself is a joint stock company where the state is the major shareholder and it employs about 60 people. The holding company of *Karellesprom* has shares in 28 forest industrial enterprises (harvesting as well as processing), employing over 29,000 people in 1998 (Romanov, 1995; Emeljanov, 1998). In addition to owning different amounts of shares in its subsidiaries *Karellesprom* administers the state-owned shares in some other companies. The activities of the company have changed from formerly being the central organizer of the whole regional forest sector to a form of consultancy and trading company. It can handle the sales transactions of the companies which are dealing with *Karellesprom*. It offers judicial and business advice services and auditing for the companies of the sector. It can also transmit credits and buy equipment in the role of a wholesale buyer. The special structures for export have broken down after the liberalization of foreign trade, and today no special export organizer remains in the Republic of Karelia (Emeljanov, 1998). About 50–60 percent of the exports goes through *Karellesprom* and the rest is exported by several production enterprises and agents (Strakhov *et al.*, 1996:97–101).

According to Goskomstat Rossii (1999:50), in 1997 there were a total of 70 large and middle-sized enterprises⁹ in the forest industrial sector comprising the branches of harvesting, wood processing and pulp and paper industry in the Republic of Karelia. In addition to the privatized former state enterprises new companies have also emerged. According to Saastamoinen (1999:22), there are currently a total of around 400 companies engaged in the forest sector, although only 20 percent of harvesting and 30 percent of all wood processing is handled by other than large and middle-sized, former state enterprises. Many of the small newly founded enterprises are engaged in intermediary activities.

⁹ Enterprises with more than 100 workers (Goskomstat Rosii, 1999:106).

Foreign investments in enterprises is also a new phenomenon in the regional forest sector after 1989 (Eskelinen *et al.*, 1997).¹⁰ The number of enterprises with foreign investments grew rapidly during the first half of the 1990s, after which the growth slowed down (Table 3:1). And, as can be seen from Table 3:1, less than one third of the total number of enterprises with foreign investments were operating in 1997.

Table 3:1. Number of enterprises with foreign investments in the Republic of Karelia.

	1991	1992	1993	1994	1995	1996	1997
Registered enterprises	36	161	310	378	408	412	427
Operating enterprises	27	80	120	202	211	165	121

Source: Burnajeva, 1999:42.

According to news released by the Ministry of Foreign Relations of the Republic of Karelia (1999), in the beginning of 1999, there were a total of 437 registered firms with foreign investments and 109 of these were involved in the forest sector. About 50 enterprises are now operating in the forest sector and their share of the production of the sector is about 10 percent (Saastamoinen, 1999:22). The forest sector is not an exception to the political uncertainty and turbulence in the institutional setting encountering foreign investors in Russia and in the Republic of Karelia (see Eskelinen *et al.*, 1997:14:35). For example, the growth in the number of registered firms with foreign investments has slowed down. In the forest sector it has only increased from 102 to 109 firms between 1994 and 1999 (Eskelinen *et al.*, 1997; Ministry of Foreign Relations of the Republic of Karelia, 1999).

Summary

- Forest management activities have stayed under state control. Forests are still owned by the state and the allocation of usufructs to industrial forest users takes place through a state-led administrative system, whereas the forest industrial sector has undergone a privatization process. Enterprises have tried to learn business practices without any strong sectoral organizations guiding the operations.
- There are still ambiguities in the formal rules regulating the ownership and allocation of forest resources. Practices in the regional forest sector have not yet been established in all the forms offered by the law.
- Many new actors have emerged in the forest industrial sector in addition to those established a long time ago.
- The influence of foreign activities on trade relations and investments has brought new dimensions to the work of single enterprises.

¹⁰ Since 1995, enterprise legislation and the foreign investment law have regulated both domestic and foreign business activities in Russia and, in addition, there are the Presidential Decrees of May 1991, December 1991 and August 1993, which are aimed at clarifying the position of the Republic in relation to the Federation and its authority in the integration into the international economy (Eskelinen *et al.*, 1997:15–18).

- Even if the reorganizations have been going on for several years there has not yet been any success in the formation of new formal operational structures for the forest enterprises. On the contrary, the breakdown of long-established structures, together with the very fragile market renewals in Russia, has generated a low performance of the forest industrial sector.

4. The Forest Sector in the Economy of the Republic of Karelia

In the whole of North-west Russia forest enterprises play a significant role in the economy of the region. On average, the forest industry provides around one third of the regions' gross domestic product (Strakhov *et al.*, 1996:81). In 1995, the number of economically active population in the Republic of Karelia was 399,000 people, of which 363,200 were employed. Of these, 27 percent were working in the industrial sector, six percent in agriculture and forestry, nine percent in construction, 12 percent in transport and communication, and 46 percent were working in different kinds of public and commercial services (Goskomstat Rossii, 1996:21–22). In relation to the whole industrial sector wood harvesting, wood processing and pulp and paper industry — in statistical publications constituting the forest industry sector — together comprise the largest share of the total industrial workforce and total industrial production with the shares of 48 percent and 42 percent respectively in 1996, and the relational share has stayed quite stable throughout the 1990s (Goskomstat Rossii, 1996:27; Goskomstat Respubliki Karelia, 1997:23; Goskomstat Rossiiskoi Federatsii, 1993:42). In the Russian Federation the share of the forest industry was 5.1 percent of the total industrial production and its share of the total industrial workforce 8.7 percent in 1995 (Goskomstat Rossii, 1996:27). In comparison, the forest sector is really the backbone of the regional economy in the Republic of Karelia as it is, for example, in the neighboring region of Arkhangelsk (see Carlsson *et al.*, 1999:16).

Since the 1960s, a notable change took place in the utilization of harvested wood in Soviet Karelia. According to Strakhov *et al.* (1996:89), in Russia a big proportion of non-industrial¹¹ round wood utilization, such as fuelwood and mining timber, exports of timber and minor use of pulpwood has been typical, whereas the development of round wood utilization in Karelia was more industrially oriented. In the 1960s, almost half of the harvested round wood was exported from Karelia, mainly to other areas of the former Soviet Union, whereas the pulp and paper industry's roundwood utilization share was less than 10 percent. The sawmill industry used somewhat less than one third, and utilization as firewood was around 15 percent (Sinjaev, 1990:101; Myllynen and Saastamoinen, 1995:149–151). In 1991, the pulp and paper industry used 46 percent, and the sawmill industry, as well as the firewood consumption stayed approximately on the same level as in the 1960s. The pulp and paper mills of Segezha and Kondopoga became the biggest users of round wood in the area with a total annual demand around 5 million cubic meters (Strakhov *et al.*, 1996:89).

¹¹ The harvested commercial wood is divided into industrial wood and fuelwood in Russia (Nilsson and Shvidenko, 1998:12).

The disintegration of the Soviet Union and the following reforms have brought a decrease in the overall industrial production of the Republic (Table 4:1). From the beginning of the 1990s to 1996 the industrial production of the Republic decreased by 51 percent. During the first years of the economic reforms the Republic of Karelia was more affluent than Russia, but since 1995 industrial production has stayed closer to the Russian average level.

Table 4:1. Index of industrial production in the Republic of Karelia and in Russia (1990=100).

	1991	1992	1993	1994	1995	1996	1997
The Republic of Karelia	95.4	83.4	72.4	57.4	58.9	49.1	49.5
Russia	92.0	75.4	64.8	51.3	48.9	46.9	*

* no data in available statistics.

Source: Calculation based on Goskomstat RK, 1997:31 and Goskomstat Rossiiskoi Federatsii, 1998:9.

And, although the forest industrial sector has maintained its relative importance among the industrial branches of the region, the production volumes of some main products of the sector show considerable decrease during the 1990s (Table 4:2). However, when discussing the decrease of production during the transition period of the 1990s, it is worth mentioning that the decrease in harvesting already started to set limits to the development of the forest industry during the 1970s, initially restricting the production of sawn goods in the former Soviet Karelia, and later the pulp and paper production also suffered from the insufficient timber supply (Strakhov *et al.*, 1996:89).

Table 4:2. Production of important forest industry products in the Republic of Karelia in 1990–1998.

	1990	1991	1992	1993	1994	1995	1996	1997	1998
Removal of wood,* ¹	10.8	9.1	7.8	6.6	5.2	5.3	4.4	3.7	4.1
Level to 1990, %	100	84.3	72.2	61.1	48.1	49.1	40.7	34.3	38.0
Sawn goods ¹	1.9	1.8	1.4	1.3	1.0	0.9	0.6	0.4	0.4
Level to 1990, %	100	94.7	73.7	68.4	52.6	47.4	31.6	21.1	21.1
Plywood ²	28.2	24.4	**	14.3	8.3	8.3	1.4	1.4	**
Level to 1990, %	100	86.5		50.7	29.4	29.4	5.0	5.0	
Fibre board ²	16.2	15.2	**	10.6	**	2.8	0.3	**	**
Level to 1990, %	100	93.8		65.4		17.3	1.9		
Chemical pulp ³	765.7	688.7	**	350.2	**	324.3	241.9	**	220.0
Level to 1990, %	100	89.9		45.7		42.4	31.6		28.7
Paper ³	1,219.8	1,133.9	**	644.9	554.5	632.3	551.5	555.4	518.9
Level to 1990, %	100	93.0		52.9	45.5	51.8	45.2	45.5	42.5

¹ million m³, ² million m², ³ 1,000 t.

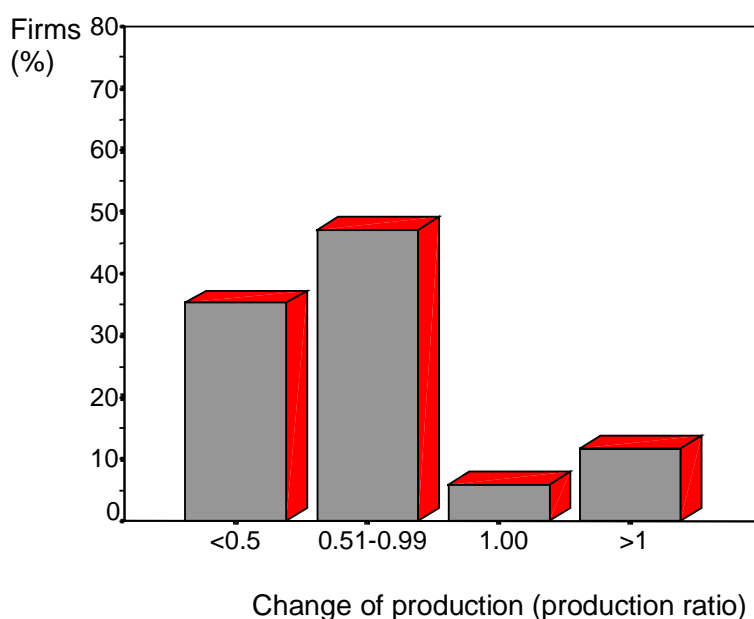
* commercial wood which is transported out of the forest.

** no data in available statistics.

Sources: Goskomstat RK, 1999:9–10; Saastamoinen, 1999:24; Goskomstat Rossiiskoi Federatsii, 1998:20–21; Goskomstat RK, 1997:32; Strakhov *et al.*, 1996:87.

Production in the Interviewed Enterprises

The change of the production volume in the interviewed enterprises is presented in Diagram 4:1. In order to be able to compare different kinds of measurement units of production the physical production figures stated in the interviews were divided by the respective production figures five years earlier. This produced production ratios for different measurement units, which were then joined together by enterprises. This production change was calculated for the industrial enterprises, which also existed in 1993.¹² The majority of the enterprises have experienced a decline in production (production ratio less than one in Diagram 4:1) and approximately in every third enterprise the decline has been 50 percent or more. Only two of the enterprises had managed to increase their production volume during the past five years.

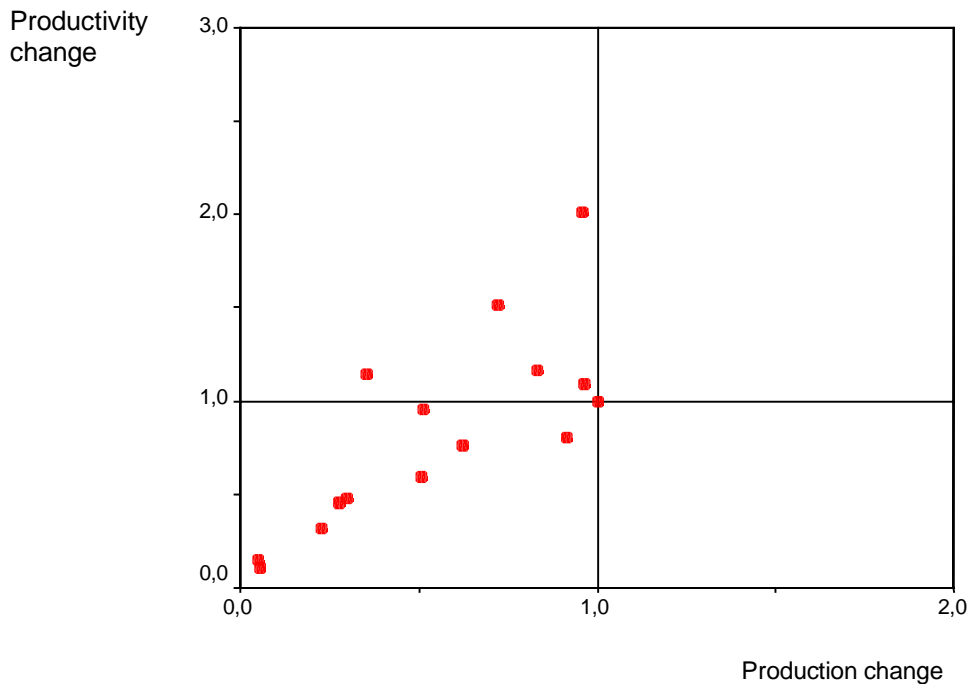


n=20, missing values 3.

Diagram 4:1. Interviewed enterprises in the Republic of Karelia by changes in their production volumes 1993–1998. (Source: IIASA Institutional Framework Database.)

Two thirds of the interviewed enterprises have experienced a decline in productivity, or it has stayed on the same level as before, with a simultaneous production decline (see Diagram 4:2). These enterprises are shown in the square where both the change of productivity and production are less than one, or equal to one.

¹² A total of 16 interviews were excluded from the analysis. The main activity of the forest management, trading and consulting enterprises is not physical production and the production of one sub-unit is already included in the figures of the whole company.



Missing values 5.

Diagram 4.2. Relation between productivity change and production change 1993–1998 in the enterprises of the Republic of Karelia. (Source: IIASA Institutional Framework Database)

Productivity is defined as the relation of production volume to employment and in most companies employment has not been reduced at the same rate as production has decreased. This can be interpreted as a sign that there has not been any adaptation through restructuring measures. However, there are five companies who have increased their productivity at the same time as production has decreased. This could be interpreted that the sector is diverging when restructuring measures are considered. But, there are no variables that indicate similarities between the five enterprises. On the contrary, a closer examination of their general positions and their reasoning about their business activities reveals an important division between them.

Two of the five enterprises are more or less just trying to survive, taking only the most necessary measures. This group might be called *Survivors*. One of the enterprises belonging to this group is insolvent and practically running out of time before it goes bankrupt. There is no change in the markets, the way of conducting business is full of the familiar, long-established practices, such as barter, debt offsets to *leskhoz*y and local authorities, oral agreements, no investments, and the most important change regarding the sector is considered to be the return to the old centrally controlled system. The other *Survivor* enterprise has started to export timber. But, as was emphasized in the interview, this is only because the enterprise was forced to do so. Business with foreign customers is done through barter. Timber is exchanged for fuel and spare parts. There are no investments or other serious restructuring measures taken. So, it can be concluded that this behavior is more or less a result of compelling circumstances rather

than a question of taking actions to restructure. The remaining three enterprises might be labeled *Reformers*. In these enterprises, there are also other business arrangements, which might be seen as efforts at restructuring not just this outcome. Two of the three enterprises are exporting *and* investing. The reasons given for this behavior show a positive attitude to reforms. One firm is not exporting but it is investing and planning for future joint programs with foreign partners regarding new production possibilities. But, it is worth noting that also these firms partly use long-established practices in conducting their business. There are no “pure cases”, i.e., enterprises which have abandoned all their long-established practices in conducting business.

Timber Supply

The main actors providing timber in the Russian forest sector are the representatives of the forest management authorities of the regional and local level (see chapter 3). However, in the chain from forests to the market there are also other suppliers, such as harvesting and trading companies. In this chapter we examine the possibilities of the enterprises (harvesting, processing, trading) to acquire timber — either from *leskhoz*y or other suppliers — and shortcomings in the timber procurement system in the regional forest sector of the Republic of Karelia.¹³

Of the 17 interviewed companies in Karelia, which harvested wood themselves either for the market or for their own processing activities, five had a leasing agreement as the basis for acquiring felling licenses. One enterprise used both leasing agreements and short-term felling licenses. But, nine enterprises based their usufructs on short-term felling licenses. They apply to the *leskhoz* and get the license. None of the respondents mentioned auctions.¹⁴ However, some respondents mentioned plans to shift to leasing in the future. Of the remaining 14 enterprises, which used timber as raw material or for trade, three concentrated mainly on offering sawing services for other enterprises and the population, i.e., they processed the raw material for those who supplied it. Two of these enterprises were forced into this situation, because they were not able to buy enough raw materials for their own production. One was mainly a contractor for another enterprise and sawing activities only took place for 1–2 weeks per month. The rest of the enterprises basically arranged their timber supplies so that one-year deals, prolonged year after year, were used with those suppliers with which they had long-standing relations. If timber was bought from new suppliers, i.e., newly established companies, the buyers preferred shorter contracts, from 1–6 months or one time deals.

As already discussed in earlier chapters, both timber harvesting and the output of the processing industry in the Republic of Karelia have decreased drastically during the 1990s, as in all of Russia. According to Strakhov *et al.* (1996:89), in the 1990s the earlier exports of round wood to other parts of the former Soviet Union turned into imports, especially from the Republic of Komi. Thus, it can be assumed that there is a larger demand for timber than supply in this regional forest sector. It is interesting to examine the respondents’ opinions of these conditions and the outcomes in the sector. The discussion about wood supply is also closely linked to sales and markets, which are

¹³ The representatives of forest management, i.e., *leskhoz*y, and one processing company only using waste paper as raw material are excluded from the presented results.

¹⁴ Answers to this question were missing in two interviews.

examined in the next section. Strong opinions are expressed in the forest sector of the Republic (cf. Mattila, 1998:8–9), as well as in our interviews, that it is timber exports which cause the shortage of raw material in timber processing enterprises and the low output of the Karelian forest sector.

Of the 14 non-harvesting enterprises in the sample only two gave frank information that the main part of their timber supplies comes from other Russian regions. One of these two was a trading company which imported wood and then sold it to large domestic processing enterprises. However, six other companies had new private harvesting or trading companies supplying their timber in addition to the long-established supply from older harvesting companies. The representatives of these new companies were said to be eager to come themselves and offer their timber. In addition, about 20 percent of the timber is going through newly founded, small harvesting enterprises and trading firms in the Republic of Karelia (Saastamoinen, 1999:23). The trading firms are usually dealing with exports and the timber is often bought from other regions (Strakhov *et al.*, 1996:103). Thus, one may assume that a somewhat larger share of timber supplied to domestic companies originally comes from other regions than the answers directly imply. Especially, since there were complaints about shortage in timber supply and the too high prices that the older harvesting companies set for this timber.

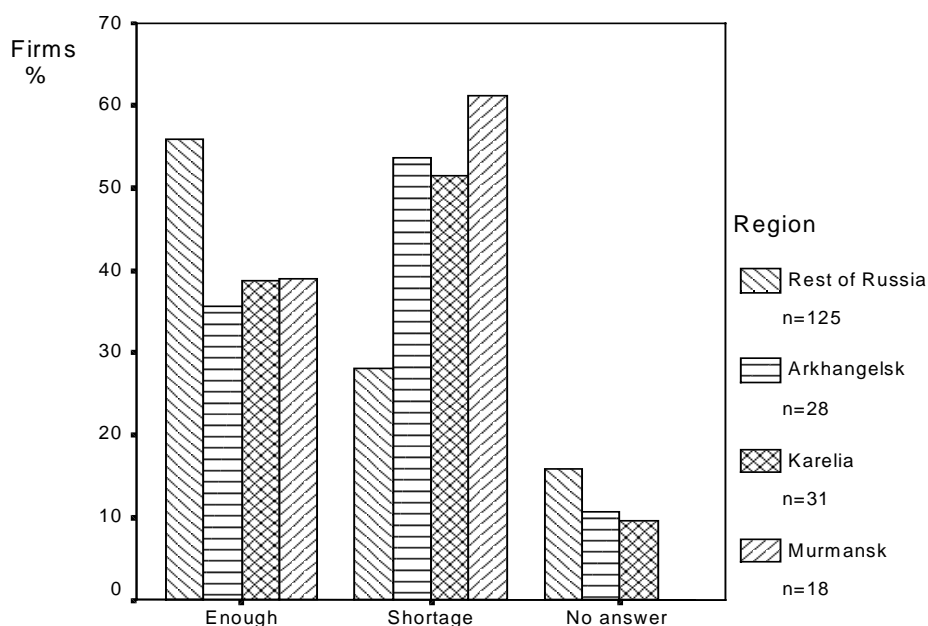


Diagram 4:3. Timber supply in the interviewed enterprises in Russia. (Source: IIASA Institutional Framework Database.)

Diagram 4:3 shows the distribution of the respondents' answers to the question whether or not the enterprise is able to acquire enough raw material. The results for the Republic of Karelia and its neighboring regions, Arkhangelsk and Murmansk, are different from the results obtained in the rest of the regions in the study. Complaints about the lack of timber seem to be much more common in these northern regions than in other regions. In Table 4:3 the reasons for the shortage given by those 16 respondents who complained about shortages in the Republic of Karelia are classified.

Table 4:3. Explanations for the perceived timber shortage in the Republic of Karelia.

Type of explanation	Frequency	Percent
Competition for timber	7	50
Forest use	4	29
Technology	1	7
Forest resources	2	14
Total*	14	100

* missing values 2.

Source: IIASA Institutional Framework Database.

The reasons given by the first group (Table 4:3) of respondents concentrate on timber exports, which exposes enterprises to a too hard price competition. Other reasons mentioned were the lack of liquid assets, which makes it impossible to succeed in the competition for raw materials even with domestic enterprises. Some respondents mentioned both reasons at the same time. All these enterprises were processing companies and all, except one, were also exporting companies.

The second group of explanations, labeled “Forest Use” in the table, concentrate on the difficulties perceived in relations to forest management organizations. All these enterprises were either harvesting or harvesting and processing enterprises. They were not satisfied with the allotted cutting quotas or the time period of the leasing agreement. They wanted to be allowed to harvest more or to have longer leasing periods. But in order to do this, new applications to the forest management authorities are required. Or, they were of the opinion that there are now too many forest users in the area causing unsatisfactory working conditions in the forest. In one enterprise the current technology and difficulties to obtain finance for its renewal were considered as a restriction for the acquisition of timber, or its possibilities to increase harvesting volumes. Two enterprises were of the opinion that the depletion of the traditional resource base is the cause for the shortage of timber. Thus, it seems that there is no single common explanation for the perceived timber shortage. It is rather a question of several factors appearing along the forest to the market chain.

Sales and Foreign Trade

The institutional changes of the 1990s in Russia and in the Republic of Karelia have introduced foreign trade as part of common business practices in individual forest enterprises. Furthermore, Eskelinen *et al.* (1997:22) have characterized the most important turns in the foreign trade of the Republic as follows: The quantitative change has been considerable, even though it started from a very low level. Exports grew more than threefold to USD 575 million between 1992 and 1995. And the commodity composition in foreign trade of the Republic has been comparable to that of the whole Federation, including a high share of raw materials in exports. In 1995, the share of raw materials was 94 percent of the total commodity export (*ibid.*). The forest sector plays an important role in the foreign trade of the Republic. In 1994, the products of the forest sector comprised 46.5 percent of the total value of exports and in the first half of 1995

the share of the sector had increased further, comprising about 60 percent of the total export value (Strakhov *et al.*, 1996:101). The products of the forest sector also continued to keep their important role in the product composition of exports in 1997 (Goskomstat Rossiiskoi Federatsii, 1998:99). The Northern Economic Region has contributed a large share in the total Russian export of different forest products (Burdin *et al.*, 1998:30). Accordingly, in this study there is also a larger share of exporting companies among the interviewed enterprises in the Northern Economic Region than in the rest of the Russian regions (Diagram 4:4). In the Republic of Karelia this share is even larger than in the neighboring regions of Arkhangelsk and Murmansk.

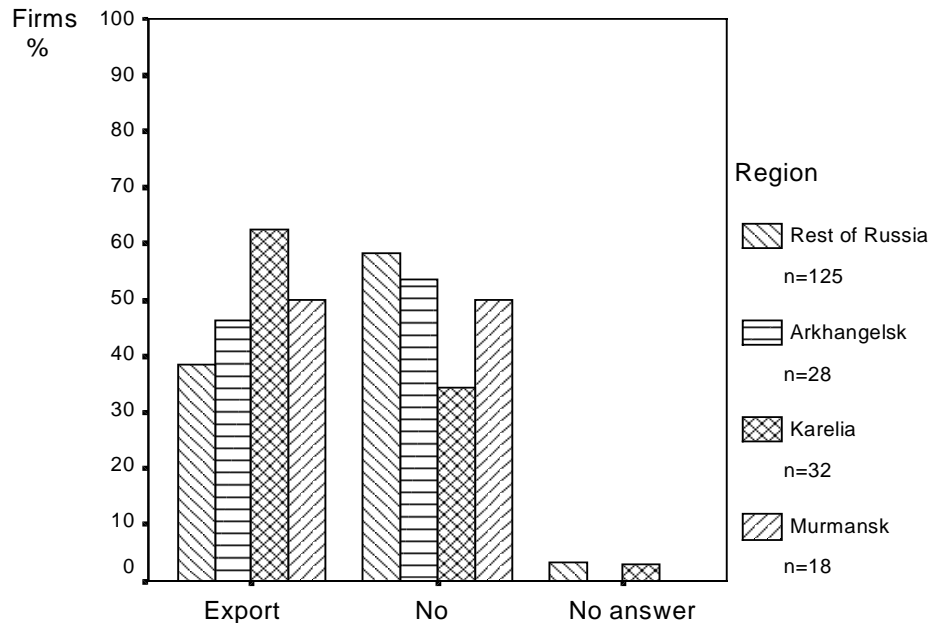


Diagram 4:4. Exporting forest enterprises (*leskhozy* excluded) in Russia. (Source: IIASA Institutional Framework Database.)

Only three out of 20 exporting Karelian enterprises exported their total production. Others sold to both the domestic and foreign markets. However, on average the exporting companies sold 61 percent of their production to the foreign market. The biggest importers of Russia's forest industry products, especially timber, are Japan and Finland and in the timber export from the Republic of Karelia Finland has a leading position (Strakhov *et al.*, 1996:100–101; Burdin *et al.*, 1998:31). More processed products of the Russian forest industry are usually sold to other countries (Strakhov *et al.*, 1996:100). This was also the situation among the interviewed enterprises in the Republic of Karelia.

Aiming at international markets can be considered as an effort to restructure. Have the enterprises used this opportunity offered them by the changes in the socio-economic circumstances? The answers seem to indicate that there are considerable efforts to restructure. However, the interviewed Karelian enterprises indicate that a positive development in this sense can be divided into two groups in the same way as the enterprises with a positive development in productivity. And, again, the division originates from their overall position and the reasoning behind their actions. There are

those that more or less lean on exporting part (even a notable part) of their production in order to survive and keep the enterprise running, and those that seem to have more “serious” goals with their export.

Survivors: Half of the 20 interviewed enterprises with export were in a serious state of affairs. They had not been successful in their performance during the 1990s. Now, they were close to bankruptcy, insolvent, or placed under external management. For these companies export is more or less a reaction to crisis, an effort to settle debts to creditors, or it is seen as a possibility to survive if it is believed that the enterprise would be able to continue its operation in the future, after the crisis. Increasing exports is also the only step taken in the direction of restructuring. Only one of these enterprises invested in their business, but on a very modest scale, and for the time being the company was functioning under external management. Some companies have shifted to exports even if their main role in the forest industrial sector has been, and still is, quite different. However, at the moment the export of timber is the main activity, since this is the only possibility to keep the main activity running on a very moderate scale. Timber is the product that is possible to export because obsolete machinery and technology prevents the production of high quality goods for foreign markets. The companies exporting processed products emphasize this difficulty. In several answers a connection was found between the impossibility to utilize the current facilities and machinery and the efforts to export timber. This can be a problem not only for old, privatized enterprises, but also for newly founded enterprises which might have based their functioning on the technology of older enterprises. Some of the enterprises may be able to survive. This depends on whether any other reorganization measures will be taken. Some are obviously not able to survive. They may just have too many obstacles in their way. And, especially if export is considered as a last rescue, as an activity that may offer a possibility to continue in the future in the same way as before without making any other reorganizations, it is more a means of delaying the inevitable.

Reformers: The other half of the interviewed enterprises with export activities have done at least somewhat better. Among these companies both long-established and new enterprises exist. There are enterprises which are based partly on foreign ownership and managed to find investors. This, together with export, has given them possibilities to invest in new technology. A large extent of their production also goes abroad. There is also an example of a newly established company with harvesting arrangements deviating from the old territorial organization of harvesting. Among some of the enterprises belonging to this group the state of affairs might have been serious a few years ago, resembling the situation in which several of the companies belonging to the previous group find themselves today. Others are long established, privatized enterprises, which have already managed to function in quite a stable way for several years despite the upheavals of transition. Export has obviously given them a possibility to invest and not only to use export as crisis prevention. For these enterprises investment is an on-going process, even investments in new forms of activities, such as wood processing. But, of course, due to the difficult economic conditions, investments are not made to the extent that they should be, according to the respondents. So, the common characteristic of these enterprises is that export is not the only activity pursued in order to identify new functions in the future and restructure in order to install them.

Transportation Infrastructure

Transportation is an important factor for the ability to exploit existing forest resources and make use of their potential. And transportation has always caused serious problems for the Russian forest sector (Strakhov *et al.*, 1996:94). The transportation infrastructure in the Republic of Karelia is relatively poor, even when it comes to main transportation routes in the area. The region is located on the periphery of the vast country and during Soviet times it was also near a closed border. The poor financial situation during the last few years has not allowed many improvements of the existing routes, much less the construction of new ones thus causing further deterioration (Oksa and Varis, 1994:63; Goskomstat RK, 1997:65).

The main transportation routes run in the south–north direction (cf. map on p. 30). The main highway runs through the Republic from St. Petersburg to Murmansk, via Olonets, Petrozavodsk, Medvezhegorsk, Segezha and Kem'. The main water route connects Lake Onega with the White Sea in the north and the Baltic Sea in the south. The White Sea canal was built in three years, 1931–33, with the help of prison labor during Stalin's rule (Laine, 1994:21). The railway network is an important transportation system in the Republic. It is comprised of two main routes running in parallel from St. Petersburg through the capital, Petrozavodsk, to Murmansk (the "October Railway") and from Petrozavodsk through Suojärvi to Yushkozero in the Kalevala district. There are two junctions to the Finnish railway network which are important for the exports of roundwood (Oksa and Varis, 1994:63). They are in the border crossing point of Niirala–Värtsilä and near Kostomuksha in Vartius. In the east, the network is connected to the Arkhangelsk region.

For the forest sector, the first main problem concerns the conditions of the main roads. Usually only the main highways are paved, which causes seasonal problems due to frosts and rains (Oksa and Varis 1994:64). Another important problem has to do with forest roads between the main transportation networks and the harvesting sites. The heavy dependence on low quality roads with a short life span (winter roads, one-year roads) and the low density of roads causing seasonal fluctuations in timber transportation are an inheritance from the Soviet period (Blandon, 1983:69). However, in the area comprising the Republics of Karelia and Komi and the regions of Leningrad, Arkhangelsk, Vologda and Murmansk the density of the forest road network is 0.08 km per 100 ha, whereas it is 0.06 per 100 ha in West Siberia and 0.04 per 100 ha in East Siberia (Strakhov *et al.*, 1996:95). In this sense the area of North-west Russia is in a relatively better position. But, the fact that the road network is not dense and good enough, together with the fact that harvesting potentials are better in more remote areas far away from transportation routes (*ibid.*:81), poses a difficult problem especially under the current circumstances.

Several respondents of the interviewed harvesting enterprises in the Republic of Karelia refer to the problems caused by the road conditions. It restricts the possibilities to exploit the forests available through usufruct rights. The construction of new roads requires large investments and it is very difficult for many enterprises to find resources for such investments. However, in one answer the bad condition of the road network, together with the far-away harvesting sites, was considered as a positive factor. The respondent was of the opinion that it prevents foreign machines (near the Finnish

border) entering the areas and other harvesting enterprises from making claims to the resource base.

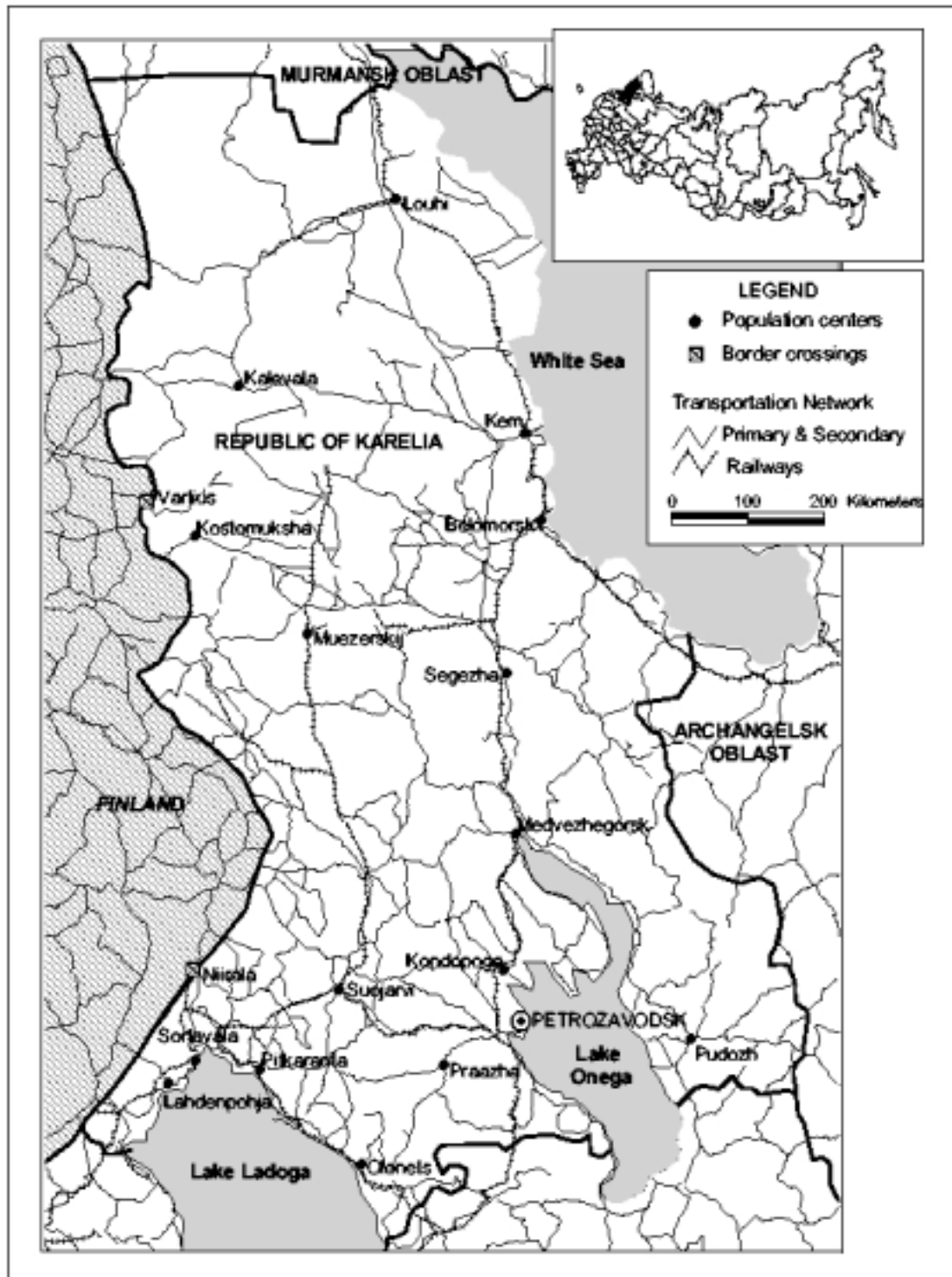


Figure 4:1 Transportation network in the Republic of Karelia
 (Data sources: Oblast boundary from IIASA Russian Forest Study Database, all other data from the Digital Chart of the World, Environmental Systems Research Institute Inc. (ESRI).)

This answer illustrates how the road problem and the possibility to exploit forest resources are also considered in light of the delicate relations between the enterprises. In looking at the emergence of new, small enterprises it is considered a negative development when they are allowed to harvest without spending any resources for the maintenance and construction of forest roads, as the long-established and privatized *lespromkhozy* have had to do. This, together with, for example, the expenses used for social responsibilities, generates unequal conditions favoring the new enterprises (Kozlov, 1998a:161). To some extent these opinions appeared in the interviews. It was felt that the emergence and increase of new forest users disturbed the work of the long-established enterprises, which were considered to possess better experience in harvesting, and thus, to be better forest users. In some answers the long term lease agreement was also regarded as the best means to provide good working conditions in the forest. Then an enterprise is able to count on the fact that other enterprises will not come and “*mess up the work and use the roads*”, as one respondent put it.

The transportation infrastructure, together with the territorial organization of harvesting is, of course, closely related to the harvesting methods used in the sector. Among the interviewed enterprises was one example of an enterprise that had started to apply a harvesting organization that deviated from the familiar model. This was a newly established company where harvesting was arranged with the help of a mobile logging unit. The respondent was of the opinion that the future belongs to enterprises like this. The mobile logging team can move to log also smaller reserves, which is necessary at least in the areas where resources have already suffered from depletion. As for the technology generally used in the interviewed harvesting enterprises it was often considered a severe bottleneck.

Summary

- The forest sector has a central position in the economy of the Republic of Karelia. Thus, its ability to restructure is of essential importance. The sector has also suffered decreased production during the 1990s. In this respect the Republic of Karelia resembles the rest of Russia.
- Even if production has decreased considerably, most of the enterprises have not adopted any significant restructuring measures to improve labor productivity.
- The sector is suffering from a shortage of timber supply to some extent. But, there is no single common explanation for the perceived shortage. It is a question of several factors along the forest to the market chain.
- In terms of the indicators examined in this chapter, it has not been possible to find a common characteristic separating the restructuring enterprises from those that are not restructuring. On the contrary, in terms of both indicators — the relation between production and employment and sales (exports) — one can find evidence that the group that seems to be restructuring is clearly diverging in terms of the overall position of the enterprises and their own reasoning behind the measures adopted. It was possible to find two sub-groups, “survivors” and “reformers”.

5. Community Issues of the Forest Sector

In the beginning of 1997 there were 780,300 people living in the Republic of Karelia (Goskomstat RK, 1997:126). The overall population density is rather low, 4.3 inhabitants/km² varying, however, from even less than 1 inhabitant/km² in some northern districts to over 10 inhabitants per km² in some southern districts. The largest population centre of the Republic is its capital, *Petrozavodsk*, having over one third of the total population in the region (Goskomstat Rossiiskoi Federatsii, 1997:5–6). Today the Republic of Karelia is a multiethnic region, although the majority are Russians (Table 5:1). Several historical events and policy measures have redefined the borders of the area and caused migration (Laine, 1994:13,24; Oksa and Varis, 1994:58–59). Among the important factors in this sense is also the development of the forest sector. According to Autio (1997:126–137, 149–154) the shortage of labor in the growing wood harvesting industry already created problems in the late 1920s. Possible solutions designed to address this issue included the recruitment of workers from other parts of the Soviet Union, the recruitment of convicts from labor camps and the requirement that agricultural collectives take part in forest work. People from Finland and Finnish emigrants from North America were also induced to immigrate and work in the young Soviet Karelia.

Table 5:1. Population of the Republic of Karelia by nationality according to the census in 1989.

Nationality	Percent
Russians	73.6
Belorussians	7.0
Ukrainians	3.6
Karelians	10.0
Finns	2.3
Vepsians	0.8
Others (Chuvash, Mordvinians)	2.7
Total population (790,100)	100

Source: Goskomstat Rossii, 1996:12.

In 1954, the population of the former Soviet Karelia again reached its pre-war level of about half a million and it was growing until the disintegration of the Soviet Union (Varis, 1993:11; Oksa and Varis, 1994:58). After this the consequences of severe socio-economic transition in the demographic development of the Republic can be seen (Table 5:2).

Table 5:2. Births and deaths per 1000 inhabitants in the Republic of Karelia 1990–1997.

Year	Births	Deaths	Natural change
1990	13.2	10.1	3.1
1991	11.2	10.4	0.8
1992	10.0	12.3	-2.3
1993	8.8	14.8	-6.0
1994	8.6	16.8	-8.2
1995	8.5	16.3	-7.8
1996	8.3	14.3	-6.0
1997	8.0	13.2	-5.2

Sources: Goskomstat Rossiiskoi Federatsii, 1997:24–27; Goskomstat RK, 1997:127; Goskomstat Rossiiskoi Federatsii, 1998:185; Suomen lähialueet, 1/99:72.

The population is decreasing and the main reason for this has been natural decline, whereas the balance of migration has been slightly positive or almost without any effects on population change (Goskomstat Rossiiskoi Federatsii, 1997:44–47; Goskomstat RK, 1997:127; Masliakova, 1998:219). Since 1992, death rates have been higher than birth rates, although death rates began to decrease again in 1995 (Table 5:2). Because of the recent decrease in death rates life expectancy changed positively in 1996. That year the average life expectancy was 64.3 years, 58.1 years for men and 71.3 years for women. However, since the end of the 1980s, there has been a significant decrease in life expectancy, i.e., in 1989–90, it was 63.8 for men and 74.2 for women. (Goskomstat Rossiiskoi Federatsii, 1997:6.)

Education and Workforce

When it comes to education the needs of the different branches of the forest sector are diverse. For example, according to Strakhov *et al.* (1996:92), there is a difference in the level of education between employees in forest management (taken care of by the FFS' regional and local organizations) and employees in the forest industrial sector in North-west Russia. Forest management is characterized by a low proportion of manual forestry workers in the number of staff, 5–6 percent, whereas the number of manual workers in the forest industries is around 45 percent. However, there are some main needs in education which are common to the whole sector. They are caused by the turbulent transformations in the economic and social systems.

According to the study made by Myllynen and Saastamoinen (1995:100–103) of the forest sector in the Republic of Karelia, the highest forestry education in the region is provided by the Faculty of Forest Engineers in the State University of Petrozavodsk. Vocational secondary education is provided in the Forest College of Petrozavodsk and education for forest workers is provided in two vocational schools located in Petrozavodsk and Chalna. The Faculty of Forest Engineers accepts students in three different fields of specialization: forestry, forest engineering science and machinery of forestry and wood processing. The Forest College of Petrozavodsk accepts students in

five fields of specialization concentrating on the technologies and techniques of wood harvesting, transportation, processing, and on forestry (planning, soil amelioration, draining and ditching). The vocational schools have adult training courses ranging from a few weeks to several months. Students can specialize on forest work, driving different vehicles or on technical works.

So, the specialization that these educational establishments provide are concentrated mostly on technologies and techniques needed in forestry, harvesting and processing industries. Based on this information, it is obvious that the education of specialists and workers for the forest sector needs modernization in order to be able to respond to the changed societal and economic circumstances. Strakhov *et al.* (1996:93,114–115) consider the lack of trained staff for marketing and trade procedures as well as the treatment of economic, legal and ecological issues in education as an important challenge, because in these fields experienced specialists also need retraining, not to mention the needs in basic academic and vocational education.

In the beginning of 1998, the economically active population amounted to 387,900 people, which is 49.7 percent of the total population. Of the economically active population, 338,800 (87.3 percent) were working and 49,100 people (12.7 percent) were classified as unemployed according to the standards of the International Labor Office (ILO). In Table 5:3 the development of unemployment is shown since 1993. However, the registered unemployment, i.e., people registered with employment services, remained about half of that rate, 6.4 percent (24,800 people) at the end of 1997 (Goskomstat Rossiiskoi Federatsii, 1998:176). At the beginning of 1992, registered unemployment was only 0.03 percent (Goskomstat RK, 1997:121). This serves well as an example of the character of the transitional society. There are even fields and functions, such as employment services, that have to be developed starting from scratch, in addition to the fundamental structural changes required in other fields. In practice, people often think that it is not worthwhile registering if the costs of travelling and acquiring registration in order to obtain a modest unemployment benefit are too high, which might be the case in, for example, some remote places (Varis, 1999:33–34). Unemployment numbers alone do not necessarily give the right picture of the actual circumstances.

Table 5:3. Economically active population and unemployment in the Republic of Karelia 1993–1998 (according to the ILO standard).

	1993	1994	1995	1996	1998 ¹
Economically active population, 1,000 people	417.8	405.1	410.1	388.8	387.9
• Working , 1,000 people	379.7	373.1	370.6	346.1	338.8
• Unemployed, 1,000 people	38.1	32.0	39.5	42.7	49.1
Unemployment rate, %	9.1	7.9	9.6	11.0	12.7

¹ At the beginning of the year.

Sources: Goskomstat RK, 1997:119; Goskomstat Rossiiskoi Federatsii, 1998:176.

The average monthly salary in the industrial sector of the Republic was 1,239,000 rubles in November 1997 (i.e., before the currency reform in 1998).¹⁵ Table 5:4 presents the average monthly salaries in the different sectors of the economy and branches of industry. Despite its central role in the economy of the region the forest sector is not at the top of the list regarding salaries.

Table 5:4. Average monthly salary in the sectors of the economy in November 1997.

Sector of the Economy	Average monthly salary (1,000 rubles)*
Industry:	1,239
Iron and steel industry	1,892
Engineering and machine building	896
Construction material industry	1,104
Light industry	581
Food industry	1,335
Fodder industry	2,112
Other industrial branches	533
<i>Forest industry:</i>	<i>1,042</i>
• <i>Wood harvesting</i>	<i>949</i>
• <i>Wood processing</i>	<i>748</i>
• <i>Pulp and paper industry</i>	<i>1,250</i>
Agriculture	737
Building	1,190
Transport	1,774
Communication	1,558
Trade and public catering, material and technical supply and marketing	898
Municipal housing and service management	1,159
Health and social services	694
Education	653
Culture and art	656
Science	1,429
Financial and insurance services	1,892
Administration	1,841

* Before the currency reform in 1998.

Source: Goskomstat Rossiiskoi Federatsii, 1998:225–226.

¹⁵ On 21 October 1997 (i.e., before the currency reform in 1998), the exchange rate was 5,908 rubles to the dollar (IBS, 11/97).

It is difficult to attract workers to the sector with current salaries and working conditions. According to Kozlov (1998a:160–161), low salaries, especially in harvesting, is a contributing reason for the fact that approximately one third of the workforce has left the forest industrial sector, among them many younger workers with qualifications. The situation regarding salaries is made more complicated because of the payment arrears (Mattila, 1998). Wage arrears were also common among the interviewed enterprises in the Republic of Karelia.

Workforce Issues Troubling the Enterprises

In 17 of the 36 enterprise interviews respondents mentioned problems related to the workforce. In three out of four interviews with *leskhozy* the lack of personnel was said to cause problems, at least during the most hectic working season, in organizing the activities of the units in silvicultural work, as well as in forest control and protection activities. Due to the financial situation the forest management enterprises are not able to hire more employees. There was no mention in these interviews of lacking skills or deficient quality of the workforce.

However, in the interviewed industrial enterprises, answers concentrated evenly on the need for special skills and, more broadly, on the behavior of the workforce. The lack of specialized workers for sawmills and the wood working industry, such as furniture manufacturing, was especially mentioned. It was claimed in these answers that vocational education for this kind of specialists is insufficient and that enterprises must train the workers themselves. The requirement to work with modern, often imported, technology was also seen as a problem for workers with their present skills. In addition to this, respondents emphasized the need for training their existing personnel, or hiring new people, in the fields of economics, law, management and marketing.

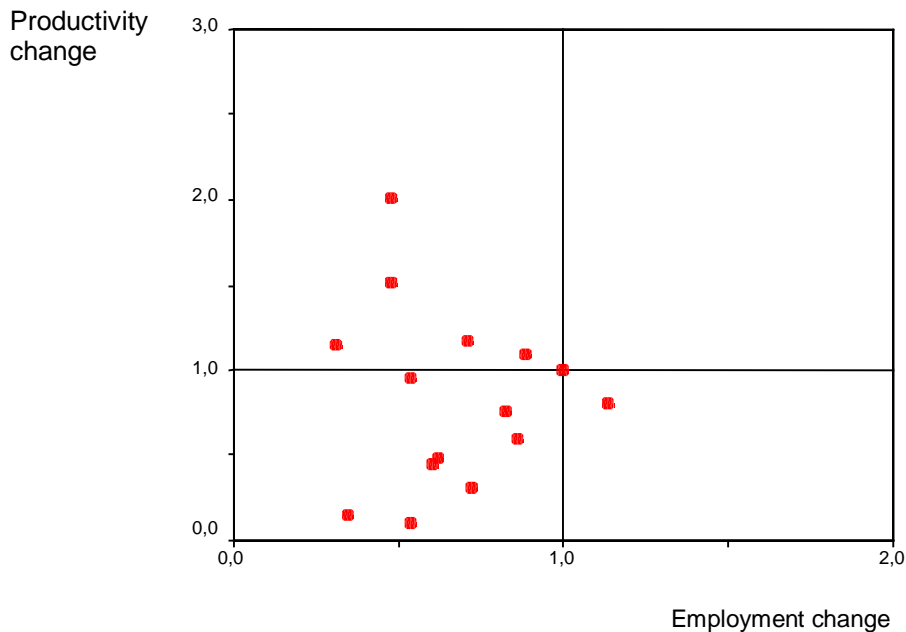
The behavior of the workforce was the other issue that received special attention by the representatives of industrial enterprises. In general answers indicated various problems, such as heavy drinking, irresponsible behavior and a decrease in “enthusiasm” for work because of the decline in working conditions caused by obsolete machinery, wage arrears, etc. In some answers differences in this respect between the older and the younger generation of workers were assessed in favor of the older generation and, in other answers, in favor of the younger generation. The conditions and the quality of the workforce were seen to give rise to greater fluctuations in employment and difficulties to find and keep a permanent workforce. And, even if it is possible to find specialists or workers with suitable technical skills, there can be difficulties with their attitudes to the quality of work and new ways of working.

The personnel and their skills were clearly pointed out in two interviews as the most valuable asset of the enterprise. However, there was a difference between these two answers. In one enterprise the subject was brought into the discussion in order to show that there is a problem because of the need for additional financial resources so that the company could invest in this “soft side.” This was another item to add to the long list of investment objects waiting for the needed finance. In the other interview, personnel issues were likewise brought into the discussion several times, but here there had also been actions taken to implement some personnel policies. The enterprise’s wage policy

allowed the workers to earn well if they were, according to the respondent: “greedy enough, preventing them from looking for another job.”

The training of the employees was considered to be a regular activity in the enterprise. The specialists were offered excursions to become acquainted with new technologies or other topical questions regarding the harvesting industry. By the time this interview was conducted the enterprise sent a group of specialists abroad to become acquainted with the issue of “Greenpeace and environmental groups”, as the respondent expressed it.

One aspect of Russian business practice is that enterprises continue employing far more workers than their level of output would allow if they functioned in a developed market system (see for example Gaddy and Ickes, 1998:1). This tendency could also be seen in the interviewed enterprises. In Diagram 5:1 the relation between productivity and employment in the interviewed enterprises is illustrated. In addition to the information given in Diagram 4:2, Diagram 5:1 shows that the majority of the enterprises simultaneously have declining productivity and employment. But, there is one example where employment has increased even when productivity has declined.



Missing values 5.

Diagram 5:1. Relation between productivity change and employment change 1993–1998 in the interviewed enterprises of the Republic of Karelia. (Source: IIASA Institutional Framework Database.)

The diagram again exposes the diverging development in the sector with a group of enterprises displaying a more typical market behavior of decreasing employment and increasing productivity. The current circumstances also seem to be very blurred when it comes to the question of who is employed and who is unemployed. The thoughts of the director in one newly founded harvesting company below illustrate these circumstances where the pressures to reorganize the production activities and ideas of the new management meet the inherited practices and structures of production.

A struggle with production and workforce issues

The company was founded in 1997 by two private persons on the ruins of a former *lespromkhoz* which went into bankruptcy. The production facilities and machinery bought from the former enterprise have brought many surprises to the management of the new company. According to the director of the company, it turned out that it had existed only on paper, without offering any real future possibilities for production, and compared to that their production plans were “*napoleonovskie*.” The deal included all harvesting machinery and equipment, as well as sawing machinery and facilities. However, because of the quality of the machinery and facilities, all that the enterprise has been able to do is some winter harvesting during 1998, with a production volume around 30,000 cubic meters. The enterprise has had to use old harvesting and transportation methods from its remote cutting sites.

In addition to the head office, the company has harvesting units, *lesopunkt*, in three different places at a distance of 10–60 km. And, the current main cutting site is still some 50 km away from the *lesopunkt* functioning 60 km away, i.e., the timber has to be transported 110–120 km. Transportation is done by old lorries with a daily transportation volume of around 20 cubic metres. Tree-length hauling is done to the company’s lower landing. This is, as the director put it, “*like transporting air*.” There is a big need for investments in both harvesting and wood processing technologies. A strategic investment plan was under preparation at the time of the interview. According to the director, after the first winter they already know what they need and what is possible. They need to proceed step-by-step. The price of one truck was estimated to be around 150,000 dollars, for example.

The large number of employees (152) has also caused serious problems for the survival of the enterprise in the current circumstances according to the director. The enterprise wants to decrease the number of employees. Because of the winter harvesting, the director would like to change the personnel policy. He is of the opinion that permanent employees are only needed in administration and certain tasks requiring specialists, together about 40. The rest of the employees should be employed for individual tasks on contract basis. In addition to the winter harvesting, the director of the company justified this kind of procedure with specific features in local life. People have their haymaking season, hunting and fishing seasons, and a season for collecting berries when other activities almost stop. The director complains that there are only a few persons in the villages who are interested in forest work. Those who want to work in general are working in railways and energy production. There are drinking problems, as well. The company has difficulties in paying salaries. It has only been able to partly pay salaries. The director of the company is of the opinion that when people receive part of their salary they spend it on drink and lose their interest in work. But those workers who work in the forest are more disciplined than those who are working in auxiliary activities. However, productivity differences between working brigades in the forest are considerable. Young people who want to earn money are more eager to work. Some have even worked as entrepreneurs before.

There is another major problem in transportation. The enterprise and the railway company disagree on whether or not the new enterprise is obliged to pay the debts of the former *lespromkhoz* to the railway company. The railway company has put the enterprise on a total railway blockade until the debt is settled. But the director is of the opinion that as buyers of the production facilities of the old *lespromkhoz*, they are not obliged to pay its debts. As a consequence, the enterprise has serious problems with organizing timber transportation.

Summary

- The development of the forest sector has played an important role in forming the “Karelian community”, beginning with the features of the demographic development.
- The turbulent socio-economic changes in the forest sector call for qualitative changes in the contents of specialist education both in basic and further training. The fields of education in urgent need of development include economics, law, business administration, marketing and environmental issues. Some redirection of the contents in technical training are also required by the enterprises, especially for the wood processing industry.
- Compared to the powerful production decline in this central branch of the regional economy, as well as in industry in general, the unemployment rate is quite modest. An analysis of the relation between productivity and employment reveals, however, that enterprises of the forest sector function with declining productivity and employment at the same time. From the point of view of restructuring to a more market oriented behavior, it is interesting to note that the decrease in employment does not usually correspond to the decline in production. But, the development in the sector is divergent.
- In considering unemployment it is also important to note that employment services started to develop from scratch in the 1990s. It is very probable that the indicators of unemployment do not give the right picture of the circumstances. In addition, the concepts of employed and unemployed become unclear when considering how the majority of the enterprises still seem to function with an excessive amount of labor.
- The possibilities of the forestry sector to find personnel do not seem promising in light of salaries and working conditions.

6. Enterprises and the Provision of Local Communities

Like most sectors of the Soviet planned economy, the forest sector contained industrial production as well as services and infrastructure in the communities (see de Souza, 1989). Enterprises had settlement planning and construction responsibilities. The World Bank estimates that about 18 percent of the 10 million people who were employed in the forest sector and for whom the sector had a direct effect in the former Soviet Union, lived in remote harvesting communities hit hard by the subsequent decline in production and service provision (World Bank, 1997:52). Although, from the viewpoint of productivity development the reductions in employment have not been large enough for the declining production, there has been an estimated reduction of one fourth in the forest industry in Russia (Kopylova and Uusivuori, 1999:360). In addition to this, stoppages in production and cuts in working schedules have been common also in Karelian enterprises. It is on the local level that all these different aspects of the sector specific, as well as broader societal, changes wind together, and meet the community’s internal pressure to change (cf. Neil and Tykkyläinen, 1998:311–313). This is the environment of people’s everyday lives.

In the urban system of the Republic of Karelia there is one dominating city — the capital of *Petrozavodsk* — and 12 smaller manufacturing towns, of which many are

specialized in wood processing or have pulp and paper industries (Oksa and Varis, 1994:61–62). In addition to this, the economic basis of many smaller settlements and rural villages is in wood harvesting and sawing. According to Kozlov (1998b:36) the harvesting enterprises have until recently used large shares of their budgets to meet their social responsibilities, including the provision and maintenance of the infrastructure, many of the services and much of the housing in towns and smaller settlements (around 130) in the Republic of Karelia. According to Autio (1997:140–147), the establishment of forestry settlements during the early development of forestry between 1926 and 1932 took place due to the need to improve the availability of labor and its productivity in the central sector of the economy in the young Soviet Karelia. The central government of the Soviet Union increased production quotas which also needed to be met and, on the other hand, the forestry settlements were intended to act as a type of industrial centers for rural areas according to predominant ideology (*ibid.*). Especially after World War II, the efforts to intensify the exploitation of forest resources generated a great deal of settlement construction. By 1957, a total of 324 new forestry villages were built in the rural areas of the former Soviet Karelia (Klementev and Kozhanov, 1988:17).

A forestry village, *lesnoi poselok*, is a settlement associated with the forest industrial sector. Its economic base is principally founded on wood harvesting and transportation, or on resin collection (Litvinas, 1985:104). When state harvesting enterprises, *lespromkhoz*y, organized their harvesting units, *lesopunkty*, or their subordinate units near forest resources in the former Soviet Union (cf. Blandon, 1983:58–61; Strakhov *et al.*, 1996:58) they built settlements and infrastructure around these units, services and housing for the workers of the enterprise and people engaged in service occupations. These settlements got their own typical characteristics because of their strong connections to the arrangement of harvesting. The construction of infrastructure, services and housing was dictated by the functional roles of the settlements and the time period for which they were supposed to function, serving the harvesting in the area (Tekhnicheskie ukazaniia..., 1964:187). According to Romanov (1998:20–21) the harvesting peak at the end of the 1960s was also a flourishing time of “migrating” logging enterprises in the Republic of Karelia, i.e., forests were logged at one place, and after that both people and machinery were transported to new forest areas until the possibilities to move diminished due to the depletion of resources. So, already from the start many settlements were characterized as places of temporary residence, where houses soon deteriorated.

The behavior in the forest sector, which during the 1990s aimed at improving the enterprises’ competitive position or simply at surviving, has had radical effects on the local communities and people’s living conditions. The enterprises are currently withdrawing from their previous roles as supporters and providers of whole settlements. In Diagram 6:1 the situation regarding the social responsibilities in the interviewed enterprises in Russia is summarized.

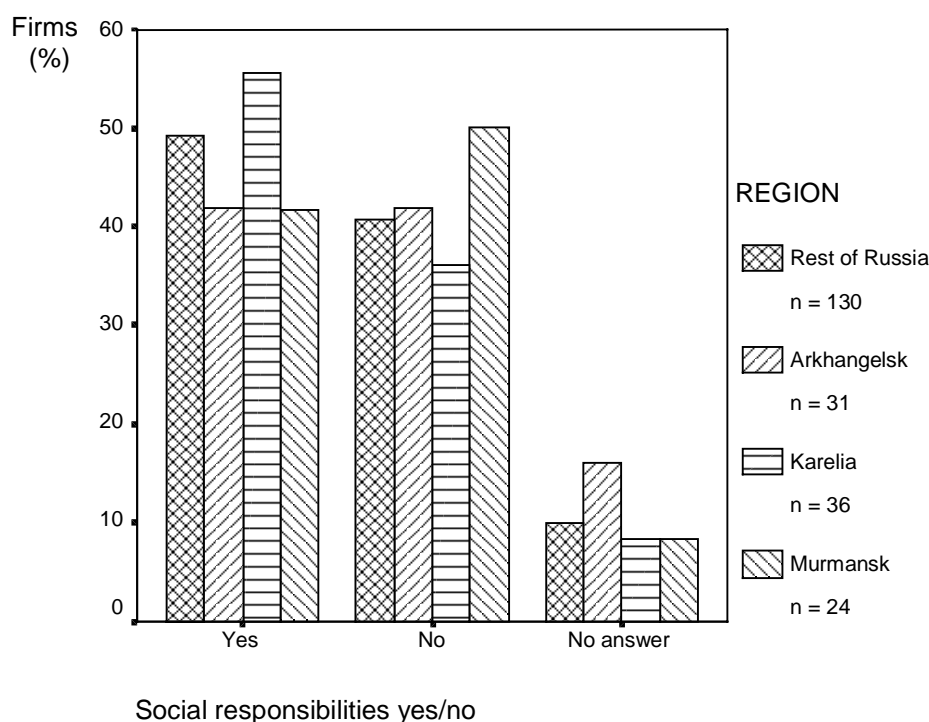


Diagram 6:1. Social responsibilities of the interviewed enterprises in Russia. (Source: IIASA Institutional Framework Database.)

Compared to its neighboring regions the interviewed enterprises in the Republic of Karelia still have more social engagements remaining (Diagram 6:1). Klementev and Kozhanov (1988:166–173) consider that, compared to the whole of the Soviet Union, a higher share of housing stock in the rural settlements of the former Soviet Karelia has been provided by state enterprises and collective organizations during the post-war period. This heritage could at least partly explain the current situation.

In the interviews with the 13 enterprises that did not have any social responsibilities in the Republic of Karelia, six respondents said that they had transferred or privatized all the previous responsibilities. Many of the 20 enterprises that still had some social engagements were now taking actions in order to withdraw from them. Eleven respondents indicated partial transfers and privatization, even though some of the social responsibilities were still in the hands of the enterprises.

Breaking the Provision Without Substitution

Even though there are regulations dealing with the privatization and transfers of the social responsibilities of the former state enterprises (cf. Freinkman and Starodubrovskaja, 1996:35; Goskomstat RK, 1997:13), in practice the conditions in the settlements, especially regarding the provision of infrastructure and housing, are unclear. According to Kozlov (1998a:160), the expenses of harvesting companies for social responsibilities are not compensated, and houses, etc., in the Republic of Karelia are no longer maintained properly. The former provision of services, such as retail shops, kindergartens, cultural and other services, were often among those engagements

which were transferred, privatized, or simply shut down in the interviewed enterprises. Several respondents also referred to difficulties in the negotiations with local authorities. The most problematic issues concerned housing in remote villages, or infrastructure objects, such as heating, water and sewer pipes, or water treatment systems. The local authorities are not willing to take over houses in remote villages, which are in a bad condition, or infrastructure objects, because they are considered too expensive to maintain. Local authorities do not have sufficient financial and other resources to maintain the provisions. They still suffer from a weak local financial basis and depend on the state taxation system, despite the new legislation and regulations regarding local self-government that appeared in Russia during the 1990s (Jacobsen, 1998; Kuznetsov, 1998:130–131).

Enterprise directors are, however, frustrated with the situation. They are of the opinion that the enterprises should at least be compensated for their provision. On the other hand, there were also voices of concern regarding people's living conditions in the remote villages, if social engagements are transferred to the hands of the local authorities not able to take care of them. The enterprises also need workers in the more remote areas and, in addition to the difficulties to get well-qualified labor, the current conditions in the settlements do not help the situation. The need for discretion in order to avoid more social tension between local actors was also stressed. The following description of the circumstances in a forestry village conveys the changing relations between forest enterprises and local communities.¹⁶

¹⁶ In addition to the interviews conducted for this study, the empirical findings presented here are based on field research carried out in a research project on rural development in transitional countries (see Klementev *et al.*, 1996; Oksa 1998; Tykkyläinen *et al.*, 1998 and Piipponen, 1999). The source material consists of structured household interviews and interviews with key persons and officials made during field trips. In July 1994, 112 households were interviewed in the village of Koivuselkä, which represented 65% of the village population. In September 1997, 72 households were interviewed comprising partly the same households that were interviewed three years earlier and partly new households. In addition, statistics, pictures and observations have been used.

A fifty-year old forestry village

The remote forestry village of Koivuselkä is located 40 km to the north-east of the shores of Lake Ladoga. By road it is 150 km from the capital of the Republic, *Petrozavodsk* (Figure 6:1). The village was established in 1949 around a new harvesting unit, *lesopunkt*, of the former *lespromkhoz* that, since privatization in 1993, is known as *Shujales*. During the timber harvesting peak of the 1960s, the *lespromkhoz* harvested 700,000 m³ of round timber annually. But the decline in production has influenced the *lesopunkt* of Koivuselkä since the end of the 1960s. The changeover from timber floating to transportation by road and railway influenced the position of this harvesting unit and the mechanization of harvesting also reduced the overall demand for labor. Since then, the village has lived in uncertainty — will the forest work continue and for how long? Out-migration began. In 1959, there were 1,532 inhabitants in the village and in 1970 the number was 964, almost 40 percent less than ten years earlier.

By 1997, the annual production of the harvesting company had fallen to 200,000 m³. But resources around Koivuselkä are not exhausted. It was left aside from the main transportation routes when timber transportation changed in the area (Figure 6:1).

During the 1990s, there have been reorganizations in the harvesting company. In 1993, there were six *lesopunkt* in the enterprise. In 1998, only three remained. The latest change in the *lesopunkt* of Koivuselkä took place in 1995 when it was subordinated to act as *masterskii uchastok* of the *lesopunkt* in *Sodder* (Figure 6:1). Today, the forest work still continues to some extent, but most of the villagers are pensioners. The forest work employs around 40 persons full time and a few temporary workers. In 1993, there were around 100 employees. However, the real number of employed in the forest work varies with the seasons.

In interviews conducted in the village in 1994, there was a calculated unemployment rate of 20 percent among the members of the interviewed households. In addition to the declined forest work, the company has reduced the number of workers in so-called non-productive activities. While, in the beginning of the 1990s, there were altogether more than 400 people employed in all the social engagements and facilities supporting the production activities of the former *lespromkhoz* in the different settlements, in 1998, this branch consisted of the foreman and one carpenter. Thus, the services in the village of Koivuselkä have ceased, or the providers have changed. After all the closures occurred, only one food shop and one smaller food kiosk were left and privatized. In 1998, a new private shop opened in the village. Services, such as kindergarten and company sauna, were transferred to local authorities, as well as the provision of electricity. The company farm and canteen were closed. The difficult part has been the housing provision of the village, which still belonged to the company in 1998. For example, in another production unit, in the village of *Matrosy*, this transfer took place in 1995 (Figure 6:1). Villagers privatized parts of the houses, but apartments in dilapidated barracks and semi-detached houses were not considered to be suitable for privatization. The village lacks such amenities as running water, sewer system and indoor bathrooms or toilets. The houses are heated with wood. Housing conditions are the most common subject of complaints among the residents, in addition to services, lack of work, and social problems. In the current conditions, the villagers are dependent on their own plots of land, animal husbandry and collecting of berries and mushrooms. Despite the further decline in residential conditions the latest decrease in population has been quite small. In 1993, the number of inhabitants was 387 and in 1998 it was 363.

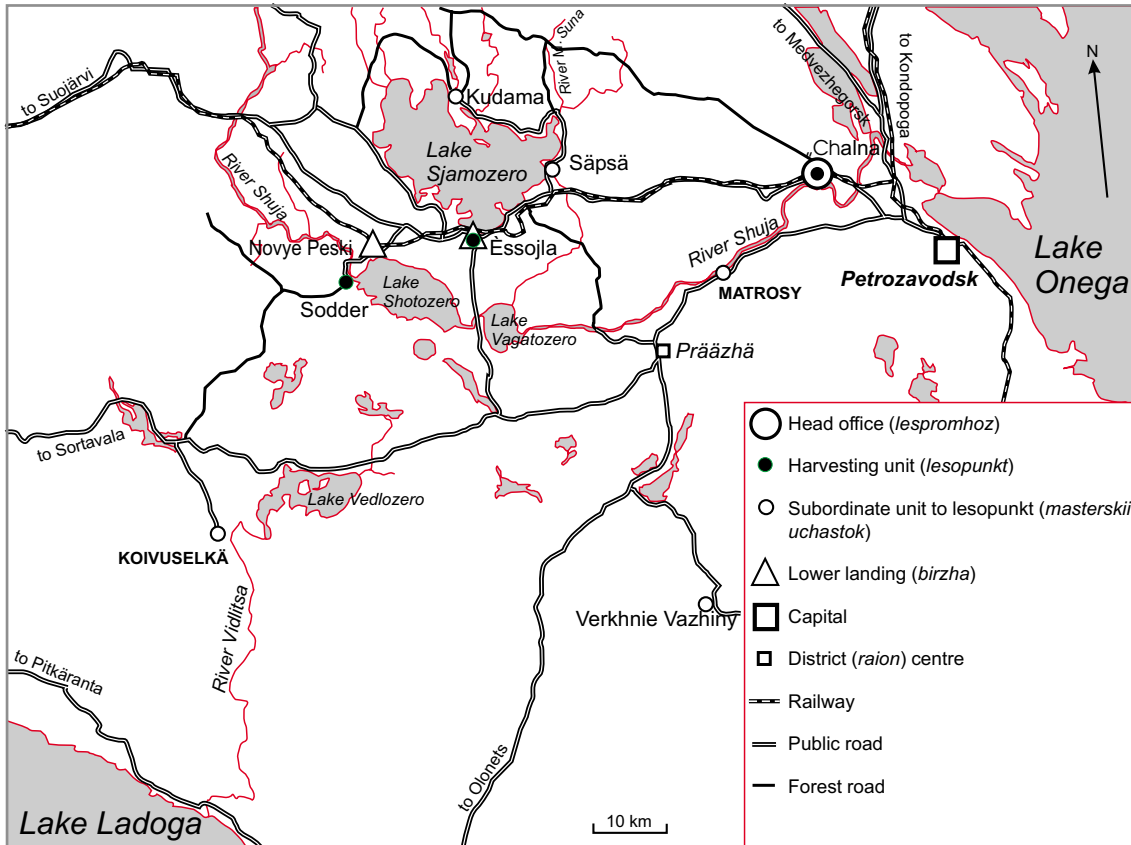


Figure 6:1. Koivuselkä and other production units of Zhujales company in 1998.

In the current uncertain and turbulent socio-economic situation, the only possibility left for the inhabitants of the rural villages has generally been to rely more on self-sufficiency in maintaining everyday life (Varis, 1996:26–27). These subsistence activities include, for example, small scale subsidiary agriculture, i.e., cultivation of garden plots and animal husbandry, and collecting of berries, mushrooms and other non-wood forest products. These activities are not new in Russia. According to Ioffe and Nefedova (1997:13:80), people in rural Russia were more or less dependent on small-scale agricultural activities and their garden plots during the Soviet period regardless of whether they were officially employed in agriculture, rural industries, such as wood harvesting, or in the service sector. But, under present circumstances, the provisions of agencies and decision making bodies of the local authorities, the new commercial providers, or the forest enterprises, have significantly declined or the provisions they offer are practically beyond the residents' reach (Pipponen, 1999).

In this respect the situation is especially difficult when considering people's possibilities of responding and reacting to pressures, their possibilities to be active agents for change and not just try to survive the situation (cf. Neil and Tykkyläinen, 1998:313). The familiar subsistence activities alone do not offer very much scope of choice for the inhabitants of the local communities to improve the residential conditions through their own agency and initiatives. However, these opportunities should not be underestimated either when changes in the relations between the forest enterprises and local communities, as well as between local communities and the inhabitants, are considered.

The possibilities for subsistence activities in the rural villages offer an important supplement for people's food supply not only in the small remote village itself but also among extended family networks and relatives living in towns and larger centers (Piipponen, 1999).

Summary

- The development of the forest sector has been an important generator in the formation of the settlement system in the Republic of Karelia. And the current restructuring of the sector is a central factor in the restructuring process of the local communities.
- On the other hand, the social responsibilities of the enterprises are obviously a delaying factor in the restructuring of the forest enterprises. They make the circumstances more complicated. It is not just a question of economic restructuring and workforce issues related to this. The process is entangled with societal changes in a larger context.
- The close connections of the forest sector to local communities also generate local variations in the restructuring processes.

7. Business Transactions of the Enterprises

In the beginning of this report the restructuring process was said to be associated to investments and decision-making regarding investments (Chapter 1). And, of course, the already examined relations between production and employment arrangements, raw material supply, sales and social responsibilities are also investment problems from the point of view of restructuring. Through their decision making enterprises have the possibility to choose if they want to pursue changes that might move them closer to the market or if they want to stay with the familiar practices relying on "relational capital," in order to survive and postpone decisions regarding investments to restructure. According to Gaddy and Ickes (1998:15) the key for choosing between the familiar relational capital and market-led behavior in Russia, is that enterprises (directors) maximize profits suitably measured. These "suitably measured profits" comprise profits gained from formal transactions *and* informal transactions and, in the current circumstances, choosing to strive only after formal profits in economic actions is costly (*ibid.*). Thus, it is a question of rational behavior in relation to given circumstances.

In this chapter the discussion returns from the larger societal issues to daily business practices and concentrates on enterprise behavior regarding investments and bank relations, as well as sales and purchase agreements and payment arrangements. Towards the end of the chapter we take a look at the problems and proposals for future policy-making as perceived by the representatives of the sector themselves.

Investments and Bank Relations

The biggest bottleneck in the sector is the aged capital stock, machinery and production facilities. In many interviews, the respondents emphasized that it is almost impossible to

compete in foreign markets with products produced with current facilities and machinery. In addition to the skills and competence of the personnel the technology and machinery were most often considered as an obstacle of importance for the activities of the enterprise. The aged and obsolete technology especially puts the processing enterprises into a difficult situation in the forest sector. Their share of exports is assessed to be insignificant (Druzhinin, 1998:98).

Against this background the level of investments is low in the interviewed enterprises. However, this is nothing new in Russia. According to Gaddy and Ickes (1998:1–2) the replacement rate of machinery was low in the Soviet Union, the capital stock was kept until more or less physically obsolete. Investment has also continued to decline. In 1997, the volume of capital investment was less than 24 percent of that in 1990 (*ibid.*). In the Republic of Karelia 16 of the interviewed enterprises (44%) made investments (Diagram 7:1). The investment objects were mainly new machinery and production facilities. Of the neighboring regions Murmansk is approximately on the same level as Karelia, whereas in the Arkhangelsk region the number of investing enterprises was smaller. However, the needs for investments are also larger in the Republic of Karelia.

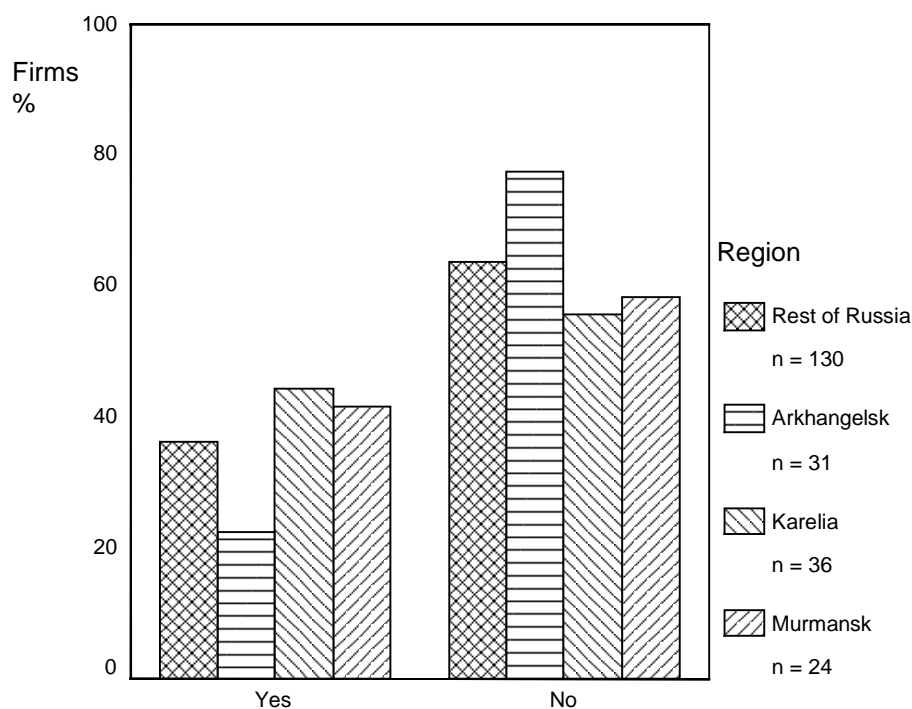


Diagram 7:1. Current investments in the interviewed enterprises in Russia. (Source: IIASA Institutional Framework Database.)

Due to the economic conditions it is, of course, easy to say that there are no possibilities for investments despite the urgent needs. However, funding of investments in the 16 enterprises in Karelia also informs us about the shortcomings in the institutional setting that affect the behavior of the enterprises, the malfunctioning relations between financial institutions, banks, and industrial enterprises. Commander and Mumssen (1998:7) have found that lending by Russian banks to the private sector decreased when

banks turned to financing the government and concentrating on giving bank credits to large firms. The majority of firms, and particularly new private firms, have had little access to bank credits during the last few years of transition (*ibid.*). Instead of financing industrial investments banks have seen other, more tempting opportunities and, at the same time, the guarantee system is in its infancy (Koskinen, 1999). The interviews reflect these results.

The investments made by the interviewed enterprises are usually financed from their own resources or by borrowing money from other enterprises or partners, but not from the banks. Three out of 16 respondents state that their investments are financed by loans from the banks or by using both internal resources and bank loans.¹⁷ A total of five enterprises stated that they use bank relations to get credits. In addition to the three enterprises, one enterprise did not have any investments going on at the time of the interview and the other one was the holding company *Karellesprom*. The five enterprises that use bank credits emphasize that it is not easy to use such credits, especially to repay them. Two of them are state enterprises. In one company the state owned a smaller share and the enterprise functioned without any debts to the budget or funds. One company was able to get finance for the investments from a Moscow bank through its owner enterprises there. The fifth enterprise was new, founded in 1998. Thus, bank credits seem to be possible for a limited number of enterprises, mainly for those with more or less good relations, or suitable partners. The bulk of the enterprises do not in practice have access to bank credits. The main reason for this, according to the respondents, was that the interest rates are impossible to manage in a situation when there is an overall lack of liquid assets. The other reasons which were pointed out were the high guarantees required by the banks or that the company can not get credit because of the debts to the budget and various funds. However, several respondents stated that it was possible for the enterprise to take loans a couple of years ago, but not anymore.

The theme sometimes provoked very sharp opinions about the banking system, because the managers could not see any signs from the banks that they want to support the development of industrial enterprises. On the contrary, as one respondent put it, the behavior of the banks is “*plain robbery.*” It can also be noted that, among the 16 investing enterprises, 11 were exporting including those 10 exporters classified as “*Reformers.*” Of those 16 investing enterprises, only two made investments with their internal resources while functioning entirely on the Russian markets.

Business Agreements and Payments

Regarding sales transaction formalities, 27 of the 33 enterprises which answered the question stated that they use written contracts. There were 4 enterprises that considered that contracts are usually made in oral form or that a written contract is a rare thing. Among them were mainly sawmills. These enterprises process the timber belonging to the customers who bring it to the sawmill. It is sawed in the sawmill, the customer pays for it and transports the sawn goods away. Or, the sawmill concentrates on mainly serving another forest enterprise functioning as a contractor. It receives orders from the firm, saws and delivers sawn goods to the firm, which then sells the goods to the

¹⁷ Four enterprises did not answer the question.

customers. In two answers the sales transaction formalities were considered to be quite tangled or confusing. The reasons for this were that exports required a larger amount of paper work although everything is well documented and procedures defined, or because the new firm did not yet have established markets in which to sell and customers with whom to deal. The respondents usually emphasized the meaning of long established business relations and well-known customers, with whom deals can be formed quite quickly and the contracts prolonged year after year. According to several respondents a phone call to the familiar director is enough, after which standard contract forms can be signed. New customers were considered as a risk with which one needs to be sharp and negotiations take more time. Single deals for one-time delivery were usually preferred in these cases, at least in the beginning.

Emphasizing well-known customers is the obvious thing to do in a situation when almost half of the interviewed representatives are of the opinion that violations of selling agreements are a big problem, and 30 percent think they are a smaller problem but still a problem. The violations of agreements include unsettled and delayed payments. The answers to the question about the ways to react on such violations are exposed in Table 7:1.

Table 7:1. Enforcement actions in violations of selling agreements.

Enforcement actions	Frequency	Percent
Nothing happens	6	17
Negotiations	1	3
No more business	4	11
Sanctions in the contract	7	20
Negotiations/arbitrazh	7	20
No problems with violations	10	29
Total*	35	100

* Missing value 1.

Source: IIASA Institutional Framework Database.

Almost every third enterprise does not take any special action when agreements are violated. All they do is to try to negotiate with the customer, stop making business with it or just wait while nothing happens. Almost 40 percent of the enterprises use formal ways of enforcement, i.e., implementation of the sanctions in the contracts or, if negotiations do not produce any results, the enterprise contacts the *Arbitrazh* Court, a special court for business disputes. However, it was also expressed that even the formal decision of this court does not necessarily mean that the enterprise will receive its payment. This may be one explanation for the behavior of those enterprises that do not take any special action towards formal enforcement after violation of a contract has occurred. Hendley *et al.* (1997) conducted a study in Moscow and Yekaterinburg in order to analyze the extent to which economic actors use law and legal institutions in structuring exchange relations. According to the results the legal system in Russia does not adequately support business transactions. The results of the enterprise interviews in

the Republic of Karelia to some extent resemble this study. Despite their bad reputation (cf. *ibid.*:25) the *Arbitrazh* Courts are used by the enterprises, which implies they are viewed as at least potentially useful. But the limited enforcement power in practice constitutes a serious shortcoming. It partly stems from the incompetence of the courts and partly from the “*turbulent organizational structure of Russian business*” (Hendley *et al.*, 1997:27). As one respondent put it in the enterprise interviews, “*firms just disappear, stop to exist*”, and the payments stay unpaid.

According to the same study (Hendley *et al.*, 1997) the distinguishing Russian feature in the use of written and routine contracts is that economic actors do not take full advantage of the possibilities to form contracts and set clauses offered by the already existing regulations. Contracts are not really meant to ensure the performance of the parties, but to act more like bargaining tools that can again be opened for negotiations during the implementation of the deal (*ibid.*). Also the share of barter, the exchange of products for products, and other money surrogates in business transactions has grown remarkably since 1992 in Russia, and estimations of its extent range around 50 percent of industrial sales in 1997–1998 (Hendley *et al.*, 1997:34; Ickes *et al.*, 1997:123; Commander and Mumssen, 1998:1; Gaddy and Ickes, 1999:80). In Table 7:2 the answers to the question about the arrangements of payments in the interviewed enterprises in Karelia are displayed.

Table 7:2. *Payments for products.*

Arrangement	Frequency	Percent
Cash before delivery	1	3
Cash on delivery	6	18
Cash before and on delivery	1	3
Cash before /on/after delivery	2	6
Cash on delivery and barter	10	29
Cash before/on/ delivery and barter	11	32
Barter	3	9
Total*	34	100

* Missing values 2.

Source: IIASA Institutional Framework Database.

It can be concluded from the table that different kinds of payment arrangements are used at the same time. Barter deals are somehow in the picture very often. In 70 percent of all the interviewed enterprises barter arrangements in payments were mentioned. Different terms of payment usually belong to the procedures emphasized by many of the respondents regarding business contracts with new customers. Payment before delivery or some other kind of secure arrangement is demanded especially from previously unknown partners, whereas with well-known partners business proceeds in a more flexible and familiar way regarding both the input and output side of the enterprise. If the enterprise itself has difficulties in carrying out payments for the acquired raw materials or if the customer of the enterprise can not pay for the products, the directors

will negotiate about the rearrangement of the payment and make a deal partially involving barter.

The Most Difficult Problems

Discussions about the existence and increase of barter in the Russian economy during the 1990s have mainly concentrated on two explanations (Hendley *et al.*, 1997:35; Gaddy and Ickes, 1998:6; Ickes *et al.*, 1997:123). Firstly, the incidence of barter has increased as efforts to stabilize the financial situation have proceeded and, thus, it has been attributed to a shortage of liquidity created by stabilization activities of the economy. Secondly, the growth of barter stems from its usefulness to survive in the tax system, avoid payments by hiding part of the production or delay the payments of previous tax liabilities. In 1997, over 40 percent of the taxes paid to the federal government were made in non-monetary forms (Gaddy and Ickes, 1999:80).

In addition to the question about payment arrangements there were also questions about the most important restriction on the activities of the enterprise and about rules and regulations that are regarded as causing obstacles for the business. Through these questions the existence of barter and, to some extent, other money surrogates, such as *vekseliia*, were clearly illustrated. And even though information regarding the more precise extent and motives of non-monetary arrangements in business transactions was not straightforwardly asked in the interviews the results from the different questions reveal some aspects about the reasons for their behavior. In addition, there is, of course, also the possibility to speculate about the respondents' reasons not to speak openly, even if asked outright if these arrangements are used in order to avoid tax payments. Besides, a full examination of barter would require a study of its own, concentrating in far more detail on business transaction procedures (cf. for example, Hendley *et al.*, 1997:35–36). The classification of the answers in the open-ended question about the most binding restriction on the activity of the enterprise is shown in Table 7:3.

Table 7:3. *The most binding restrictions on the activity of the enterprises.*

The most binding restriction	Frequency	Percent
Financial / lack of money	10	28
Economy / transition disorder	8	22
Formal legislation	6	16
Transportation	4	11
Lack of state support	4	11
Technology	2	6
Business traditions	1	3
Find market	1	3
Total	36	100

Source: IIASA Institutional Framework Database.

It is difficult to refer some answers to any one of the mutually exclusive classes. Regarding, for example, the two most often mentioned restrictions, economy/transition disorder and financial/lack of money, the division is made based on the exactness of the answers. In some answers, it was clearly stated that the lack of money and finance is the most important restriction on the activities of the enterprise, whereas in other answers there was more general talk about the unstable conditions for the activities caused by the fiscal and economic policy of the government. There is no stability in the decision making of the government. Or, it was merely stated that there is economic instability in the enterprises in general, causing difficulties in business transactions.

We will return to the statement of the lack of state support in the next chapter. It can also be noted that only one of the enterprises found the market as the most binding restriction on its business activities. And one respondent mentioned old business traditions, referring to the prevalence of the old mentality among enterprise managers, who are used to relying on centralized marketing of the products, not having to find consumers for their products themselves. Problems related to transportation and technology were already discussed in previous chapters. The remote location of cutting sites, the condition of the road network and obsolete machinery cause serious restrictions on enterprises' behavior.

But, according to Table 7:3, even if the previous restrictions are important they are shadowed by other, larger problems related to the lack of money and formal regulations. The examination of restrictions, together with the results of the question about rules and regulations causing obstacles for the business activities, also reveals that the class of formal legislation is closely connected to the financial restrictions. In their answers to this question the respondents most often referred to the tax legislation and the tax system. There were two main complaints regarding taxes and payments alike: There are too many funds and licenses to pay and the total amount of all the payments is too high. If one would like production to continue at least on some scale it means that other arrangements for payments of both input and output business transactions will have to be found, since credits from banks are usually out of the question. In some cases, the main restriction was identified more broadly relating to business legislation or especially to forest legislation ("Formal legislation" in Table 7:3). These cases were, however, only a few. Thus, the main reasoning behind the arrangements involving barter and other money surrogates seems to be the lack of liquid assets because of the macro-economic and taxation policy. The shortcomings are also found in both the design of formal regulations and in their enforcement, as well as in the practices to which they contribute. The following examples from our interviews well illustrate these circumstances and how they are perceived by the enterprises themselves.

QUESTION: Would you please list those taxes and payments which have to be paid monthly, or maybe yearly in your enterprise?

ANSWER: I can not! I give up immediately.

QUESTION: Why?

ANSWER: Because there are so many of them. I can not recall them....

Later:

...My opinion about taxes is purely negative. I can not understand why I have to make an advance payment for taxes if I do not know how much the production will be in that month. Maybe I will not produce anything at all. And furthermore, for example, the question of licence payments — we have licences for the boiler house, cranes, fuels and lubricants, roads, sales, advertising. And I listed only a few. I must have a licence for every activity — licence for telecommunication. I will sit here a whole hour if I list them (*payments*) for you. Imagine, we have almost every sort of activity in our enterprise. And, how much is one licence? — I have to pay for every licence. For every licence I have to prepare a thick bundle of documents starting from the beginning of the establishment of the enterprise. For whom do we have to do this and for what? This is why I have a negative opinion about taxes....

Later:

...There should be only one, two, three, four taxes, no more — income tax, profit tax, maybe something like a pension fund and health care. These would be enough. The rest should be distributed somehow to organizations, authorities. The best would be if there were two different taxes, profit tax and income tax, maybe a third one for sales. Why should I have to buy a licence for the fire department? I have a fire department in my factory. Why do I have to buy a licence? If I was going to establish a new activity I would agree on obtaining a licence...

Later:

...A week ago we had a new inspector of crane mechanisms. In Russia, new regulations were established regarding crane mechanisms. These new regulations, if not for Americans, are at least for Germans. These regulations set the kind of conditions for our cranes. We do not live in Germany. We do not use German cranes. He (*the inspector*) wrote me an order that I have to do all this. I read... and read. I have to throw out the crane and buy a new one, for example, in Finland which will fit all these new regulations. It is not realistic. There are laws and regulations made for the kind of circumstances that we shall not see in the next 30 years.

...Well, you know how many taxes we have to pay etc. We are not given a chance to earn money for the enterprise. There should be a change in the federal policies because the current economic policy is aimed at suffocating enterprises...

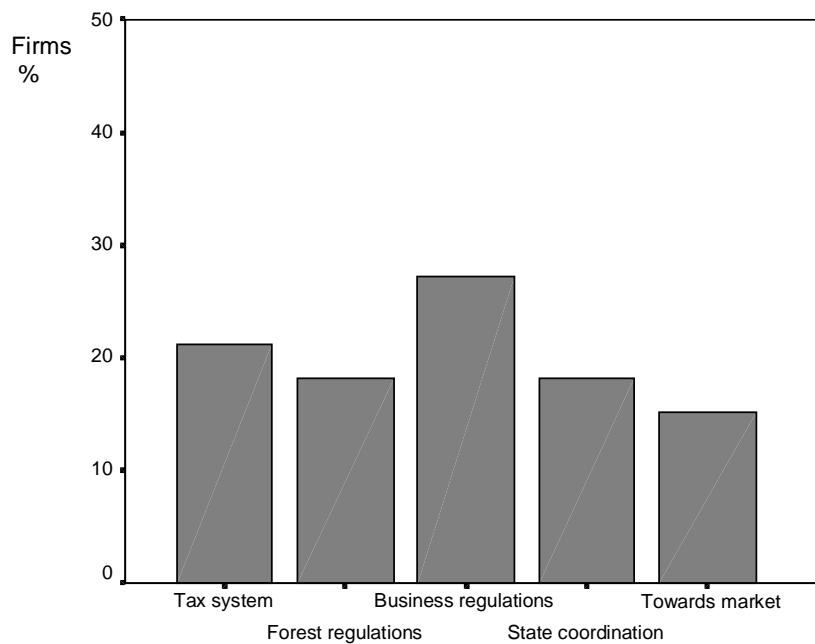
Later:

...Let us have a look.. There is a tax called “Tax for road users.” It is paid like a tax and it is, say, around three percent of the realized production. Of our production, 98 percent is transported by railway. Around two percent we transport along roads. But, we have to pay almost three percent of our total production. Where is the logic...?

Under the circumstances just described it is not difficult to imagine many other possible uses for the production. There are also connections between non-monetary transactions and the taxation system in the form of tax offsets that we can see in our interviews. It was often said that the enterprise is insolvent and partly substitutes its products (timber, fuel wood, etc.) for tax payments to the local budget. It could also be seen that the real rules for restructuring the provision of social responsibilities were mainly generated by the main players on the local level, such as local authorities and enterprises, according to their balance of interests and bargaining powers (cf. Freinkman and Starodubrovskaya, 1996). This provides reasons for speculations regarding the real role of the social responsibilities in the relations between the enterprises and local authorities, especially in local communities depending upon the performance of one enterprise. Unfortunately, the questions of this study do not give enough information to analyze these issues more deeply. On the regional level, the republican government managed to collect 53 percent of its taxes during the first half of 1997, and 38 percent of the collected amount was in non-monetary form (Nupi, 1999). In the first half of 1998, 55 percent of the taxes were collected (Parkkonen, 1998).

What Should Be Done?

The answers to the open-ended question about the important changes needed in the forest sector according to the respondents are classified in Diagram 7:2. There are, again, different ways to interpret open-ended answers, one interpretation excluding the other. The division used here is based first of all on our purpose of trying to see whether the important changes perceived by the respondents mostly lie in the regulations and practices regarding forest use or in other activities of the enterprises. The even distribution illustrates the mixed nature of the problems perceived by the representatives of the sector.



n=33, missing values 3.

Diagram 7:2. Important changes in the Russian forest sector as perceived by forest enterprises in the Republic of Karelia. (Source: IIASA Institutional Framework Database.)

Six of the 33 respondents who answered the question believed the important changes in the forest sector to be dependent upon regulations and practices of forest use. Issues that were particularly specified included the irrationality in the timing and distribution of forest payments compared to the returns of production in the allotted harvesting site, the need for stricter pricing of raw materials as a means to restrict the export of timber, and shortcomings in the regulations regarding the periods of forest lease. The granted five-year forest lease was considered too short. Half of the arguments for changes in forest use regulations were given by the representatives of the forest management organizations, the *leskhozy*. They emphasized inconsistencies between federal and republican forest laws, for example regarding the ownership of forests (see Chapter 3). And, partly because of the shortcomings in co-ordination of the different regulations, there are unnecessary requirements for documentation and a cumbersome bureaucracy. There were also opinions of too detailed regulations and strict control of the central forest management authorities towards their subordinate *leskhozy*, which implement the work in practice. It was considered that they would need more possibilities for local applications of rules depending upon, for example, the quality of the forest fund. The need for more solid financial foundation of the forest management work was also emphasized. More careful regulations regarding forest lease as the main basis for forest usufructs and forest payments were regarded as essential in the implementation of sound forest utilization. However, on the whole, the most important changes were usually perceived to be, again, somewhere else than in the forest use regulations and practices.

The need for change in the taxation policy was clearly stated by one fifth of the respondents. In addition to those specified answers there were also comments dealing

with different kinds of regulations and practices more broadly related to business practices. Here the necessity of regulations which provide more support for enterprises to work in the domestic markets were emphasized. In this connection arguments for a price differentiation in raw materials for export and home markets were presented, as well as the need for joint structures among enterprises, such as financial-industrial groups. The creation of better conditions to get financing and the need for technological renewal in forest work was emphasized. The view that more support is needed especially for new enterprises was also expressed.

Those respondents who emphasized the need for state coordination in the forest sector formed a clearly distinguishable group. These respondents were of the opinion that the former centralized structures should be reinstated, at least partly. There were arguments for the restoration of the former role of *Karellesprom*. Sales transactions and cash flows should be handled by *Karellesprom*. Severe restrictions for timber export should be introduced and the functioning of domestic, long established enterprises providing for the population and local communities should be paid more attention and supported first of all. The former *kompleksnye lespromkhozy* were seen to be a better structure for the harvesting industry. And, even if the former system to organize the sector should not be totally adopted, conditions should be created where the holding company *Karellesprom* has the opportunity to dictate to the enterprises how to develop their business. Thus, there are still actors in the sector who advocate a return to the former system, or at least to a system with more control and guidance from above.

In the last group, called “Towards market” in Diagram 7:2, the attitudes and intentions conveyed in the answers are quite the opposite of those of the former group advocating state coordination. In these answers, the idea is that it is necessary to form conditions for enterprises to function in the market, create a readiness in the sector to adapt both to easier and more difficult times that might be brought about by the fluctuations in the markets. One answer mentioned in general the necessity of policies that generate the circulation of money in the economy. Four other answers concentrated on the idea of reorganizing the structure of the sector. They stated that bigger and more flexible enterprises are needed for competition in foreign markets. According to the respondents, these conditions could be created by merging current firms and, especially, different branches of the forest industrial sector, because alone the current enterprises are too weak for the market. Better coordinated management is also needed. But, even if some of these respondents were supporters of stronger structures and a more coordinated management in the forest sector, they were of the opinion that these are means to become better equipped for competition in the market, not just vague wishes to revert to the former system. It is, however, worth mentioning that only one of these respondents also emphasized the necessity to change the old mentality of enterprise directors, formed by the former centralized structures of the sector, to learn how to solve many problems independently and to be flexible in order to cope with market conditions. Others just emphasized the need to create conditions for the formation of stronger structures for competition.

Summary

- There is a huge need for investments in the forest sector of the Republic of Karelia. But the shortcomings in the financial system are a serious obstacle for investments

together with the poor financial conditions of the enterprises themselves. In practice, the majority of enterprises do not have access to bank credits.

- The old relations still clearly matter in the business agreements and arrangements of payments among the enterprises. The lawful means of enforcement in the cases of agreement violations are considered potentially useful by the enterprises. But, in practice, there are still problems in their enforcement power. There are also still enterprises that have not learnt how to use those means, or do not consider them worth trying.
- Enterprises simultaneously use widely differing payment arrangements and negotiated barter deals or other money surrogates are usually a part of these arrangements.
- The economic and taxation policies and the consequent lack of money among the enterprises are considered to be the most severe restrictions on the business activities in the enterprises. The most serious obstacles caused by the formal legislation are usually considered to stem from taxation and other business regulations. But there are also restrictions caused by forest use regulations and problems connected to transportation. Thus, the lack of money, liquid assets, caused by the economic and taxation policies was emphasized as the main cause for the wide-spread barter and the use of other money surrogates in the regional forest sector.
- There are also connections between the non-monetary transactions and the taxation system. Information about tax offsets was common among the interviewed enterprises. The role of enterprises' social responsibilities also seems to be more or less a negotiable factor.
- Altogether, the examination of the most important changes in the Russian forest sector and the most severe restrictions on business activities as perceived by the representatives of the sector reveal the very mixed nature of the problems and they are often related to other policy fields than forest use and regulations.
- It is still rather common that there are enterprise representatives who want the sector to revert to strong state coordination and state-led structures. Against this group are those who emphasize that the sector is not ready for the market and should be restructured in order to be able to compete in the market. The suggested structural means for this can be very similar to those advocated by the previous group, but the reasoning behind them is quite different.

8. Conclusions

This chapter draws together what all our indicators have shown about the process of restructuring in the regional forest sector of the Republic of Karelia. This way we try to identify the shortcomings of the institutional setting. The forest sector is central for the regional economy and its restructuring is essential for the possibility to integrate this peripheral region into the national and international economy. Figure 8:1 presents the conclusions with the help of the research framework used in Chapter 1.

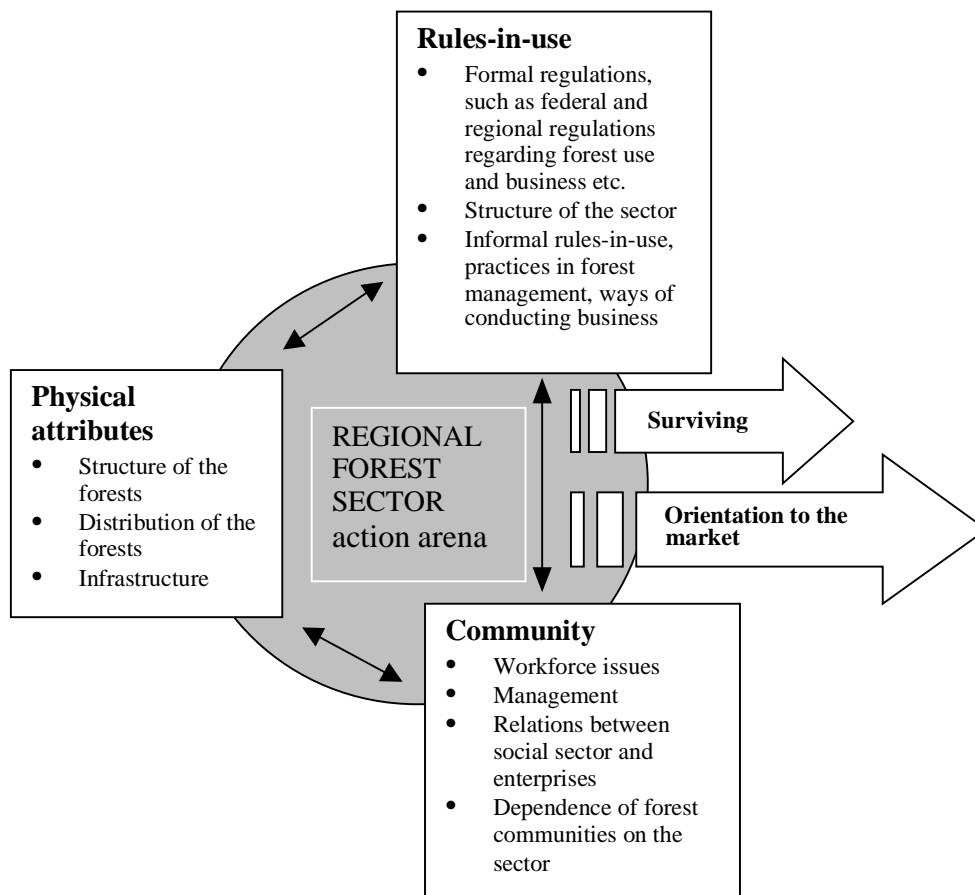


Figure 8:1. Attributes affecting the action arena, interactions and outcomes in the regional forest sector of the Republic of Karelia. (Source: Based on Carlsson *et al.*, 1999:77).

Here the attributes affecting the action arena, the interactions of the actors and the outcomes of the actors' interactions in the regional forest sector are depicted. In addition to the effects on the actions that the attributes of the physical world, community and rules-in-use bring about there is also interaction between them. For example, the rules applied in both forest use and business activities affect the forest resources and the community issues of the sector (illustrated with the black arrows in Figure 8:1). When it comes to the process of restructuring, the interactions of the actors and outcomes of those interactions display a divergent development among the forest enterprises in the

Republic of Karelia. Some actors concentrate more on surviving, others take more serious actions towards the market. Results regarding this process are discussed in more detail in the next sections of this chapter.

Forests and Their Exploitation

The typical problems regarding forest resources, which originate from the forest exploitation system during the Soviet era, are also visible in the Republic of Karelia in unbalances between the transportation infrastructure and the forest resources. They continue to cause problems for organizing forest exploitation today. The forests have been depleted close to transportation routes and potential forest resources are situated far away from transportation routes. Under the current circumstances the formerly determined spatial margins (cf. Smith, 1971), defining the limits of the area in which profitable economic operation is possible, do not apply anymore and the condition of the transportation network is generally not good enough. The structure of the forest resources has also changed and there are territorial differences in the resource base. These circumstances call for attention when regulating forest use and they emphasize the role of new technology and methods of forest use in both forestry and industrial exploitation of the resources, in addition to the needs for improving the infrastructure. Respectively, they transform the close connections between the organization of the forest exploitation and local communities generated by the former production-led settlement construction.

There have been contradictions between the regional forest legislation and the federal legislation but, since the new Forest Code was adopted in 1997, a renewal of the regional regulations continues. However, there are ambiguities and at least sources of unclarity already in the federal forest legislation and in the formal structural organization of the sector. Such ambiguities can be seen in the definition of forest ownership between the different levels of the state and the dual subordination of the regional forest management organ in the formal administrative structure of forest management. Thus, there are already inconsistencies in the formal judicial and political rules defining the hierarchy of the basic decision structure. Basically, the main tool for usufruct of forests, leasing, satisfies the forest users and the representatives of the forest management. But, there is still work to do in implementing the allocation procedures that the present regulations already offer, such as auctions, before the possibilities of private actors to acquire rights and usufructs for utilizing resources for their own benefit can be regarded as settled and before rules are applied equally to similar actors. However, with respect to formal regulations, the most binding restrictions on the activity of the enterprises were considered to be somewhere else than in the regulations concerning forest use — they were to be found in taxation and business regulations.

Formal and Informal Interaction of the Enterprises

The basic tension regarding the progress of restructuring is between formal and informal rules and practices. The indicators that were used here unanimously show that the informal practices are delaying the expected restructuring.

The relation between production and employment depicts these circumstances first. The drastic production decline in the sector has not generated a corresponding decrease in the size of the workforce leading to a decrease of labor productivity. With behavior generating this outcome most of the enterprises would not be able to continue if they acted in a market-led environment. The fact that authorities favor short-term forest use rights indicates that practices still resemble much of the former system of resource allocation. Attributes of community including workforce issues and especially the connections between enterprises and the provisions of housing and infrastructure, as well as whole local communities, emphasize the fundamental characteristics of the process going on in the sector. The forest sector has played an important role in the formation of the whole settlement system in the area. It is not just a question of economic restructuring, but the transformations are tangled with larger societal and spatial structures, with their transformations and development. It also emphasizes the need for taking into account regional and local variations with respect to the policy efforts regarding restructuring of the sector. Practices used in business agreements and arrangement of payments further explain the delays in the orientation to the market. Regular long-established business relations are emphasized. Enterprises use widely differing payment arrangements and barter and other non-monetary arrangements are often in the picture. The general economic and taxation policies, as well as the resulting lack of liquid assets among the enterprises, are considered to cause the use of non-monetary transactions. But, the wide emphasis on their use, together with the negotiable form of tax payments and unclear situation regarding social responsibilities of the enterprises, indicate their usefulness in relation to tax payments as well.

So, in the interaction situation, there is a possibility to negotiate about the outcomes of the actions in favor of options which do not require too costly investment of resources in restructuring procedures. Even if the reorganization of the forest sector has been going on for several years new, market-led mechanisms are still weak. This, together with the breakdown of old formal structures of production, has brought into being institutionally fragile and turbulent circumstances under which one can still find room for the familiar informal ways of interaction. It has been possible to continue surviving with the help of familiar relations and methods that were in place also during the planned economy. The ways of interaction those relations and methods generate deviate from the prerequisites of the formally expected market behavior.

Divergence of the Sector

So, the action arena is diverging in terms of restructuring. First of all, a common feature in the distribution of the indicators was that in addition to the enterprises showing traditional ways of practicing business there was always another group of enterprises with deviating interactions and outcomes which can be interpreted as signs of a more market-oriented behavior. But, it was not possible to find any other common characteristics, for example size or legal status, among these enterprises, which would have indicated what type of enterprises seem to be restructuring. On the contrary, the group initially looking as pursuing restructuring is clearly diverging in itself. This further diverging was found by looking at the overall position of the enterprises and more detailed reasoning given by the actors themselves for the actions which at first seem to indicate that restructuring efforts are going on in the enterprise. There are in general also other indicators showing the same type of behavior as the indicator in

question. However, it is important to remember that there are no “pure” enterprises in the sense of restructuring, i.e., all interactions and outcomes that were examined only show an *orientation* to restructuring. The representatives of the sector simultaneously make good use of both formal and informal methods, at least to some extent.

The indicator of the relation between production and employment and the indicator of sales, i.e., indicators showing if an enterprise is heading for new markets, depicted the situation most clearly. In both cases, the group representing restructuring can be divided further into one group in which actors have adopted the behavior as a reaction to the crisis situation only in order to survive, and into another group in which actors are more serious reformers. The result reveals that a possibility exists to fall into the fallacy of overestimation when assessing the progress of the restructuring process, based only on superficial indicators of the interactions and outcomes. This also suggests that restructuring, instead of being highly regular, is rather a unique and enterprise-based process. The uniqueness of the restructuring process, depending on the actual actors involved and the local circumstances, has also been emphasized in studies of local economic development and community restructuring based on several case studies from different parts of the world (Neil and Tykkyläinen, 1998).

Nowadays the regional forest sector in the Republic of Karelia is an open export sector, a fact that undoubtedly has affected the development of the 1990s. Under the current circumstances the hardest pressures on the enterprises to restructure come from abroad. The outcomes of the restructuring that has taken place so far in the formal structure of the sector and economic policy during the 1990s in Russia and in the Republic have already set enterprises into a new action situation in their domestic market and, in addition to this, they have also had to start to function in international markets. The representatives of the sector emphasized the effects on the enterprise behavior of those macro economic circumstances and the outcomes of the economic policies conducted in the country during the period of transition. Transition disorder in the overall economic conditions and, more precisely, the lack of liquid assets among the enterprises, were considered as the main restrictions on practicing business. At the same time, the sector desperately needs investments. Obsolete technology is often one of the stumbling blocks in the way to develop production. However, in practice the majority of the enterprises do not have possibilities to get bank credits for investments. On the one hand, the internal financing markets are underdeveloped and, on the other hand, it is difficult for enterprises to function profitably. Finding reliable investment objects is not an easy task for banks either. When it comes to foreign capital the turbulent institutional setting does not invite investors to the extent required. Thus, according to the representatives of the sector the most common sources for investments are internal assets. Under the current circumstances, exports offer a possibility to obtain cash and resources for at least some investments. Due to the hard competition in the foreign market and the inability to produce processed products of high enough quality for export the quickest solution has usually been to export timber, raw materials.

This timber export has also created a contradictory outcome in the sector. By the timber processing industry, timber exports is claimed to be the cause of the shortage in their timber acquisition and, at the same time, the cause of the bad performance of the sector. However, when considering the complaints about the shortage in timber supply, representatives of the sector also expressed several other reasons for this. It is a question of several factors along the forests to the market chain and those factors are usually

linked to the institutional setting of the sector. Under the current circumstances, exports place the actors of the sector in a very unequal position compared to their competitors in western economies with financial and other resources of a totally different character. But, if enterprises have really chosen to strive for a more market-oriented behavior, export brings along a structural adjustment which is the pivotal characteristic of sectoral restructuring. New actors appear on the scene, old actors may form new combinations and some of the old ones simply disappear. And, competition will not disappear in the future unless, of course, a full regression to the former system with closed borders would occur. Thus, the policy goal can not only be to support all existing units as far as possible, either.

The division here, which is based on the distribution of the indicators between enterprises labeled “Reformers” and “Survivors”, is perhaps an over-simplification. With more accurate material regarding the internal processes in enterprises it would undoubtedly be possible to find a more sensible categorization between the extremes now used. For example, in the study of the local economic transformation in the city of Vyborg in the Leningrad region, six different enterprise types were found according to their readjustment to the new institutional setting (Kosonen, 1999). However, the distributions of the indicators and the further diverging categories of restructuring efforts already raise a similar question with that study (*ibid.*): To what extent will the former institutional setting, which is currently being transformed by macro policies towards new structures and the developed practices (barter, for example), with which the representatives of the sector have responded to the problems resulting from the incomplete transformations, leave their marks on the evolving future system? Similar results can also be found in other studies. For example, these marks have been labeled “*endogenous nuances*” in the evolving Russian market economy, when the future potentials of the industry in northwestern Russia have been assessed (Tykkyläinen and Jussila, 1998:234). Drawing together all the features of the restructuring process and the institutional setting in the regional forest sector scrutinized in this report, it can be stated that restructuring does not take place according to any certain blueprint necessarily heading towards the known models of a market economy.

References

- Autio, S. (1997). *Kohtalona metsä. Neuvosto-Karjalan metsätalouden murros v. 1926–1932* (Forests as a Destiny. The Breakage of the Forestry in the Soviet Karelia in 1926–1932) Licentiate thesis in history. Tampere: University of Tampere.
- Backman, C.A. (1998). *The Forest Industrial Sector of Russia. Opportunity Awaiting*. London: The Parthenon Publishing Group.
- Blandon, P. (1998). *Soviet Forest Industries*. Boulder, Ca: Westview Press.
- Burdin, N.A. and A.-L. Myllynen (1999). *Venäjän metsäteollisuuden nykytila* (The Current State of the Russian Forest Industry). Suomen lähialueet 3/99. Helsinki: Business Statistics, Statistics of Finland, pp. 26–30.
- Burdin, N.A., A.-L. Myllynen and V.V. Strakhov (1998). *Russian Forest Industry Production. Trends and Prospects*. Joensuu: North Karelia Polytechnic.
- Burnajeva, J. (1999). Ulkomaiset investoinnit Karjalan tasavaltaan hiipuneet (The Foreign Investments have Ceased in the Republic of Karelia). *Suomen lähialueet 3/99*. Helsinki: International Business Statistics, Statistics of Finland, pp. 42–44.
- Carlsson, L. and M.-O. Olsson (1998). *Institutions and the Emergence of Markets — Transition in the Tomsk Forest Sector*. IIASA Interim Report, IR-98-084. Laxenburg, Austria: International Institute for Applied Systems Analysis.
- Carlsson, L., N.-G. Lundgren, M.-O. Olsson and M.Yu. Varakin (1999). *Institutions and the Emergence of Markets — Transition in the Arkhangelsk Forest Sector*. IIASA Interim Report, IR-99-021. Laxenburg, Austria: International Institute for Applied Systems Analysis.
- Commander, S. and C. Mumssen (1998). *Understanding barter in Russia*. European Bank. EBRD Working Paper No. 37.
- De Souza, P. (1989). *Territorial Production Complexes in the Soviet Union — with a special focus on Siberia*. Departments of Geography. Serie B Nr. 80. University of Gothenburg.
- Druzhinin, P.V. (1998). Ekonomicheskie Problemy Periferiinogo Regiona (Economic Problems of a Peripheral Region). In: *Ekonomicheskie otnosheniia i upravlenie v ekonomike Respubliki Karelia v usloviakh rynochnykh preobrazovaniia* (Economic Relations and Management under the Market Transformation of the Economy in the Republic of Karelia). A Collection of Scientific Articles. Issue 2. Petrozavodsk: Institute of Economics, Karelian Science Centre, Russian Academy of Science, pp. 97–106.
- Emeljanov, I.G. (1998). Personal Communication to Minna Piipponen, Nadezhda Polevshchikova, Svetlana Gurova and Eira Varis. June 17, 1998. Vice Director of Karellesprom.
- Eskelinen, H., E. Haapanen and A. Izotov (1997). *The Emergence of Foreign Economic Activity in Russian Karelia*. Publications of Karelian Institute, University of Joensuu.

- Freinkman, L.M. and I. Starodubrovskaja (1996). *Restructuring of Enterprise Social Assets in Russia: Trends, Problems, Possible Solutions*. IIASA Working Paper, WP-96-052. Laxenburg, Austria: International Institute for Applied Systems Analysis.
- Gaddy, C. and B.W. Ickes (1998). *To Restructure or Not to Restructure: Informal Activities and Enterprise Behavior in Transition*. URL: <http://econ.la.psu.edu/~bickes/ickres.htm> (May 1999).
- Gaddy, C. and B.W. Ickes (1999). An Accounting Model of the Virtual Economy in Russia. *Post-Soviet Geography and Economics*, Vol. 40, No.2, pp. 79–97.
- Goskomstat Respubliki Karelia (1997). *Respublika Karelia v tsifrakh '97 (Republic of Karelia in Numbers '97)*. Petrozavodsk: State Committee on Statistics of the Republic of Karelia.
- Goskomstat RK (1997). *Sotsial'no-ekonomicheskoe polozhenie Respubliki Karelia za 1991–1996 gody (Socio-economic Conditions of the Republic of Karelia in 1991–1996)*. Petrozavodsk: State Committee on Statistics of the Republic of Karelia.
- Goskomstat RK (1999). *Sotsial'no-ekonomicheskoe polozhenie gorodov i raionov Respubliki Karelia za 1998 god (Socio-economic Conditions in the Towns and Districts of the Republic of Karelia in 1998)*. Petrozavodsk: State Committee on Statistics of the Republic of Karelia.
- Goskomstat Rossii (1996). *Respublika Karelia v tsifrakh (the Republic of Karelia in Numbers)*. State Committee on Statistics of the Republic of Karelia.
- Goskomstat Rossii (1999). *Ekonomicheskoe i sotsial'noe razvitie gorodov i raionov Respubliki Karelia (Economic and Social Development in the Towns and Districts of the Republic of Karelia)*. A Statistical Collection. Petrozavodsk: State Committee on Statistics of the Republic of Karelia.
- Goskomstat Rossiiskoi Federatsii (1993). *Respublika Karelia v tsifrakh v 1992 godu (The Republic of Karelia in Numbers in 1992)*. Petrozavodsk: State Committee on Statistics of the Republic of Karelia.
- Goskomstat Rossiiskoi Federatsii (1997). *Ekonomicheskoe i sotsial'noe razvitie gorodov i raionov Respubliki Karelia (Economic and Social Development in the Towns and Districts of the Republic of Karelia)*. Petrozavodsk: State Committee on Statistics of the Republic of Karelia.
- Goskomstat Rossiiskoi Federatsii (1998). *Sotsial'no-ekonomicheskoe polozhenie Respubliki Karelia za 1997 god (Socio-economic Conditions of the Republic of Karelia in 1997)*. Petrozavodsk: State Committee on Statistics of the Republic of Karelia.
- Gur'eva, L.S. and L.Ju Bondarenko (1996). *Zhizn' i Rabota v Poselke Mogochino (Life and Work in the settlement of Mogochino)*. Tomsk: Centre for Independent Studies, State University of Tomsk.
- Hendley, K., B.W. Ickes, P. Murrell and R. Ryterman (1997). Observations on the Use of Law by Russian Enterprises. *Post-Soviet Affairs*, 13, 1, pp. 19–41.
- IBS 11/97. International Business Statistics. Helsinki: Statistics Finland.

- Ickes, B.W., P. Murrell and R. Ryterman (1997). End of the Tunnel? The Effects of Financial Stabilization in Russia. *Post-Soviet Affairs*, Vol. 13, No. 2, pp. 105–133.
- Ioffe, G. and T. Nefedova (1997). *Continuity and Change in Rural Russia. A Geographical Perspective*. Colorado and Oxford: Westview Press.
- Jacobsen, B. (1998). *Local Self-government in Russia. A decade of change*. NIBR Working Paper 1998:117.
- Klementev, J.I. and A.A. Kozhanov (1988). *Sel'skaja sreda i naselenie Karelii 1945–1960 gg* (Rural Environment and Population of Karelia 1945–1960). Leningrad: Nauka.
- Klementev, J., J. Oksa, N. Polevshchikova, P. Rannikko and E. Varis (1996). Local Impacts of Restructuring. A Case Study of a Forestry Settlement. In: Eira Varis and Sisko Porter (eds.) *Karelia and St. Petersburg. From Lakeland Interior to European Metropolis*. Joensuu: University Press, pp. 191–205.
- Kopylova, E. ed. (1999a). Forest Resources of the Russian Federation. In: Matti Palo and Jussi Uusivuori (eds.) *World Forests, Society and Environment*. Dordrecht, Netherlands: Kluwer Academic Publisher, pp. 341–350.
- Kopylova, E. ed. (1999b). Transition from Planning to Market Economy in Russia. In: Matti Palo and Jussi Uusivuori (eds.) *World Forests, Society and Environment*. Dordrecht, Netherlands: Kluwer Academic Publisher, pp. 331–340.
- Kopylova, E. and J. Uusivuori (1999). Erosion of Social Structures in the Russian Forest Sector. In Matti Palo and Jussi Uusivuori (eds.) *World Forests, Society and Environment*. Dordrecht, Netherlands: Kluwer Academic Publisher, pp. 359–362.
- Koskinen, P. (1999). Pian loppuu varastettava. Huonoa politiikkaa, korruptiota ja valtataistelua (Soon It Will Ran Out What There Is to Steal. Bad Policy, Corruption and Power Struggle). *Talouselämä* 29/99, pp. 39–41.
- Kosonen, R. (1999). Instituutiot, verkostot ja muutoksen säätely Viipurissa (Institutions, Networks and Regulation of the Change in Vyborg). *Alue ja Ympäristö*, Vol. 28, No. 1, pp. 54–68.
- Kozlov, A. (1994). Forest Resources and Problems of Their Utilization. In: Heikki Eskelinen, Jukka Oksa and Daniel Austin (eds.) *Russian Karelia in Search of a New Role*. Karelian Institute, University of Joensuu, pp. 87–96.
- Kozlov, A. (1998a). Problemy Stabilizatsii lesnogo kompleksa v usloviakh Rynochnykh preobrazovaniï (Problems of Stabilization of the Forest Sector under Market Transformation). *Ekonomicheskie otnosheniia i upravlenie v ekonomike Respubliki Karelia v usloviakh rynochnykh preobrazovaniï* (Economic Relations and Management under Market Transformation of the Economy in the Republic of Karelia). A Collection of Scientific Articles. Issue 2. Petrozavodsk: Institute of Economics, Karelian Science Centre, Russian Academy of Science, pp. 159–166.
- Kozlov, A. (1998b). Karjalan metsäsektorin ongelmat (Problems of the Karelian Forest Sector). In: Jukka Oksa (ed.) *Koivuselkä — metsätyökylä Venäjän Karjalassa* (Koivuselkä — A Forestry Village in Russian Karelia). Publications of Karelian Institute No. 121. Joensuu: University of Joensuu, pp. 34–40.
- Kuusela, K. (1998). *Finnish Forestry and Forest Industry in Europe*. Helsinki: Finnish Forest Industries Federation.

- Kuznetsov, M.Yu. (1998). Problemy funktsionirovaniia munitsipal'nogo khoziaistva (opyt Shvetsii) (Functional Problems of the Municipal Economy (A Swedish Experience)). In: *Ekonomicheskie otnosheniia i upravlenie v ekonomike Respubliki Karelia v usloviakh rynochnykh preobrazovaniia* (Economic Relations and Management under the Market Transformation of the Economy in the Republic of Karelia). A Collection of Scientific Articles. Issue 2. Petrozavodsk: Institute of Economics, Karelian Science Centre, Russian Academy of Science, pp. 129–132.
- Laine, A. (1994). Karelia Between Two Socio-Cultural Systems. In: Heikki Eskelinen, Jukka Oksa and Daniel Austin (eds.) *Russian Karelia in Search of a New Role*. Joensuu: Karelian Institute, University of Joensuu, pp. 13–25.
- Lehmbruch, B. (1998). Ministerial Spin-offs and Economic Transformation in the Russian Timber Industry, 1992–1996. In: Lars Carlsson and Mats-Olov Olsson (eds.) *Initial Analyses of the Institutional Framework of the Russian Forest Sector*. IIASA Interim Report, IR-98-027. Laxenburg, Austria: International Institute for Applied Systems Analysis, pp. 30–50.
- Lesnoi Fond Rossii* (Russian Forest Fund) (1995). (po uchetu na 1 Ianvaria 1993 g.) (Forest Inventory in 1993). Moscow: VNIICHlesresurs.
- Lesnoi Kodeks Rossiiskoi Federatsii* (Forest Code of the Russian Federation) (1997). LR No 020906. Moscow: VNIIClesresurs.
- Litvinas, A.P. (1985). Lesopromyshlennye poseleniia v sisteme rasseleniia Karel'skoi ASSR (Forest Industrial Settlements in the Settlement System of the Karelian ASSR). *Vestnik LGU*, No. 14, pp. 104–108.
- Malmlöf, T. (1998). Institutional Framework of the Russian Forest Sector. A Historical Background. In: Lars Carlsson and Mats-Olov Olsson (eds.) *Initial Analyses of the Institutional Framework of the Russian Forest Sector*. IIASA Interim Report, IR-98-027. Laxenburg, Austria: International Institute for Applied Systems Analysis, pp. 7–29.
- Masliakova, N.V. (1998). Depopuliatstsia Naseleniia (Depopulation). In: *Ekonomicheskie otnosheniia i upravlenie v ekonomike Respubliki Karelia v usloviakh rynochnykh preobrazovaniia* (Economic Relations and Management under the Market Transformation of the Economy in the Republic of Karelia). A Collection of Scientific Articles. Issue 2. Petrozavodsk: Institute of Economics, Karelian Science Centre, Russian Academy of Science, pp. 219–223.
- Mattila, A.-K. (1998). Kontupohjan vientisaha seisoo tukkipulan takia. Venäjän Karjalan metsäteollisuus hoippuu kuilun partaalla (The Export Sawmill in Kondopoga is standing idle because of Timber Shortage. The Forest Industry of Russian Karelia is Swaying on the Edge). A newspaper article in *Särmä* September 24, 1998.
- Melin, H. (1998). In the Shadow of the Plan: Factory Management and the Problem of Social Transition in Russia. In: Granberg, Leo (ed.) *The Snowbelt*. Helsinki: Kikumora Publications, pp. 133–151.

- Ministry of Foreign Relations of the Republic of Karelia (1999). *The Information on the Enterprises with Foreign Investments in the Republic of Karelia on the 01.01.99*. URL: http://www.gov.karelia.ru/Power/Ministry/Relations/inf0199_e.html (June 23, 1999).
- Myllynen, A.-L. and O. Saastamoinen (1995). Karjalan tasavallan metsätalous (Forestry in the Republic of Karelia). *Silva Carelica* 29. Faculty of Forestry, University of Joensuu.
- Neil, C. and M. Tykkyläinen (1998). An introduction to research into socio-economic restructuring in resource communities. In: Cecily Neil and Markku Tykkyläinen (eds.) *Local Economic Development: A Geographical Comparison of Rural Community Restructuring*. Tokyo: United Nations University Press.
- Nilsson, S. and A. Shvidenko (1998). *Is Sustainable Development of the Russian Forest Sector Possible?* IUFRO, Occasional Paper No. 11, June. URL: <http://iufro.boku.ac.at/iufro/publications/occ-p11/index.html> (27 Oct. 1999).
- North, D.C. (1997). *The Contribution of the New Institutional Economics to an Understanding of the Transition Problem*. UNU/WIDER Annual Lecture.
- Nupi. Centre For Russian Studies Database (1997). *Kareliya faces financial crisis*. URL: <http://www.nupi.no/cgi-win/Rusland/krono.exe/991> (June 23, 1999).
- Oksa, J. and E. Varis (1994). Karelian Republic: Population, Settlements and Administration. In: Heikki Eskelinen, Jukka Oksa and Daniel Austin (eds.) *Russian Karelia in Search of a New Role*. Karelian Institute, University of Joensuu, pp. 57–69.
- Oksa, J. (1998). *Koivuselkä — metsätyökylä Venäjän Karjalassa (Koivuselkä — A Forestry Village in Russian Karelia)*. Publications of Karelian Institute No. 121, University of Joensuu.
- Ostrom, E., R. Gardner and J. Walker (1994). *Rules, Games, and Common-Pool Resources*. Ann Arbor: University of Michigan Press.
- OY FEG — Forest and Environmental Group Ltd. (1997). *Nature Conservation Areas and Natural Monuments in the Republic of Karelia and in Leningrad Region*. Joensuu.
- Parkkonen, M. (1998). Uuden hallituksen nimitys viipyy Venäjän Karjalassa (The Nomination of the New Government is delayed in Russian Karelia). A newspaper article in *Helsingin Sanomat*, July 5, 1998.
- Pejovich, S. (1998). *Economic Analysis of Institutions and Systems*. London: Kluwer Academic Publisher.
- Piipponen, M. (1999). A Local Community in Transition in the Republic of Karelia, Russia — Residential Issues for Forestry Villages (forthcoming).
- Romanov, G.E. (1998). Multipurpose Nature Use and Its Role in Social Sustainability of Local Areas — an Outlook from Russia. In: Olli Saastamoinen and Solja Lipitsäinen (eds.) *Social Sustainability and the Taiga Model Forest*. Joensuu: Faculty of Forestry, University of Joensuu, pp. 19–27.
- Romanov, E.S. (1995). Kholdingovye kompanii v lesnom komplekse (Holding Companies in the Forest Complex). *Lesnoi zhurnal* No. 2–3, pp. 179–183.

- Saastamoinen, O. (1999). Karjalan tasavallan metsäteollisuuden vaikeat vuodet (The Difficult Years of the Forest Industry in the Republic of Karelia). *Suomen lähialueet 3/99*. Helsinki: Business Statistics, Statistics of Finland, pp. 20–25.
- Sinjaev, N.V. (1990). *Lesnoi kompleks Karelii. Ètapy perestroiki (The Forest Complex of Karelia. Periods of Perestroika)*. Karelian Regional Administration of the Forest Science and Technology Society. Petrozavodsk: Izdatelstvo Karelia.
- Smith, D.M. (1971). *Industrial Location. An Economic Geographical Analysis*. New York: John Wiley and Sons, Inc.
- Strakhov, V.V., V.K. Teplyakov, V.A. Borisof, N.I. Goltsova, J. Saramäki, P. Niemelä and A.-L. Myllynen (1996). *On the Ecological and Economic Impacts of Wood Harvesting and Trade in North-West Russia*. Joensuu: OY FEG — Forest and Environment Group Ltd., All-Russian Research and Information Centre for Forest Resources, ARICFR, University of Joensuu, Faculty of Forestry, St. Petersburg State University, Institute of Biology, Russian Academy of Sciences, St. Petersburg Research Centre for Ecological Safety.
- Struyk, R., S. O’Leary and I. Dmitrieva (1998). *Enterprise Housing Divestiture in the Russian Federation*. URL: <http://www.cipe.org/e22/str2E22.html> (January 13, 1998).
- Suomen Lähialueet 1/99*. Helsinki: International Business statistics, Statistics of Finland.
- Tekhnicheskije ukazaniia. Po proektirovaniu lesozagotovitel’nykh predpriiatii* (Technical Instructions on the Planning of Harvesting Enterprises) (1964). Leningrad: State Committee on Harvesting, Pulp and Paper and Wood Processing Industry and Forestry under Gosplan SSSR and Giprolestrans.
- Tykkyläinen M. and C. Neil (1995). Socio-economic Restructuring in Resource Communities: Evolving a Comparative Approach. *Community Development Journal*, Vol. 30, pp. 31-47.
- Tykkyläinen, M. and H. Jussila (1998). Potentials for innovative restructuring of industry in Northwestern Russia. *Fennia*, Vol. 176, No. 1, pp. 223–245.
- Tykkyläinen, M., E. Varis, J. Oksa, M. Piiponen, I. Nagy, É. Kiss, G. Mátray (1998). *Rural survival strategies in transitional countries. An introduction to the comparative study of localities in Northwestern Russia and Hungary*. Karelian Institute Working Papers No. 2/98. Joensuu: University of Joensuu.
- Varis, E. (1993). *Karjalan tasavalta tänään* (The Republic of Karelia Today). Joensuu: County Government of North-Karelia, University of Joensuu, Mekrijärvi Research Station.
- Varis, E. (1996). *The Restructuring of Peripheral Villages in Northwestern Russia*. Research for Action. Helsinki: The United Nations University, WIDER.
- Varis, E. (1998). Comparing restructuring of postsocialist countryside in Russia and Hungary: Some methodological and theoretical aspects. In: Markku Tykkyläinen, Eira Varis, Jukka Oksa, Minna Piipponen, Imre Nagy, Éva Kiss and Gyöngyi Mátray: *Rural Survival Strategies in Transitional Countries. An introduction to the comparative study of localities in Northwestern Russia and Hungary*. Karelian Institute Working Papers No. 2/98, University of Joensuu.

- Varis, E. (1999). Rakennemuutoksia ja nykyarkea Venäjän Karjalan maaseudulla (Restructuring and Everyday Life in Rural Russian Karelia). *Suomen lähialueet* 3/99. Helsinki: International Business Statistics, Statistics of Finland, pp. 31–35.
- World Bank (1997). *Russia. Forest Policy during Transition*. A World Bank Country Study. Washington, D. C.

Appendices

Appendix 1. Questionnaire used in the Interviews with the Russian Forest Sector Enterprises

Interview no.

Interview conducted by:

Date:

Name and address of enterprise:

Respondent:

SECTION A: GENERAL DESCRIPTION OF THE ENTERPRISE

1. Name of the enterprise?

2. What year was the enterprise established?

3. Give a short description of the enterprise.

4. Type of enterprise?

Forest owner/possessor/forest service

Harvesting enterprise

Processing industry

Consultant

Other type, describe

5. What are your main products?

Today:

One year ago:

5 years ago:

10 years ago:

6. What is the actual production volume of the enterprise?

Today:

One year ago:

5 years ago:

10 years ago:

7. Who is the legal owner of this enterprise?

The state, specify:

Private person/persons, namely:

The enterprise is a corporation

owned by other companies, namely:

Other, namely:

8. Number of employees? (Counted as full time personnel)

Workers, today:

Workers, 5 years ago:

Workers, 10 years ago:

Administration, now:

Administration, 5 years ago:

Administration, 10 years ago:

9. Do you have any engagements and responsibilities related to activities other than production?

Housing:

Provision of consumer goods:

Schools:

Health care:

Child care:

Other:

10. Do you currently make any investments in your enterprise?

No

Yes, describe content and scale

11. How are your relations to the banking system — can you borrow money, from whom and on what terms? Describe:

SECTION B: INPUT SIDE OF THE ENTERPRISE

12. From whom do you acquire timber/wood?

Provider: _____ % of total volume:

Provider 1:

Provider 2:

etc.

13. On what terms is the timber/wood normally acquired?

FOR CONSULTACY FIRMS:

12 b. From whom do you get your orders/tasks/assignments?

Client: _____ % of total volume:

Client 1:

Client 2:

etc.

13b. On what terms do you get your orders/tasks/assignments? Describe:

14. Do you have any alternative supplier(s)?

Yes

No

15. Can you acquire a sufficient amount?

Yes

No, what is the explanation?

16. How is the timber/wood paid for?

Payment upon delivery:

Payment before delivery:

Other arrangement, namely:

17. How are payments arranged?

Via bank; name of bank:

Payments are done by the enterprise itself:

Other construction, namely:

18. What will happen if either part breaks the agreement or does not fulfill its duties?

19. Do you regard violations of agreements as a problem?

Yes, a big problem

Yes, but a small problem

Not really a problem

20. Describe how a typical purchase transaction is performed.

SECTION C: OUTPUT SIDE OF THE ENTERPRISE

21. To whom do you sell your 'products'? Name and type of customers in order of importance (as a percentage of total volume), name all.

Customer: _____ % of total volume:

Customer 1:

Type:

Customer 2:

Type:

etc.

22. Can you describe how a typical sales transaction is performed?

**23. What will happen if either part breaks the agreement or does not fulfill its duties?
Describe**

24. Do you regard violations of agreements as a problem?

Yes, a big problem

Yes, but a small problem

Not really a problem

25. How do you get paid for your products?

Cash or equivalent upon delivery

Cash or equivalent paid before delivery

Other arrangement, namely:

26. How are payments arranged?

Via bank; name of this bank:

Payments are done by the enterprise itself

Other construction, namely:

SECTION D: INSTITUTIONAL ASPECTS

27. Is this enterprise a member of any branch organization or equivalent?

No

Yes, namely:

What are the arguments for this construction?

28. Are there rules or regulations that apply to your enterprise which you regard as an obstacle for your activities?

No

Yes, describe:

29. Are there other problems which you regard as obstacles for a successful business?

Describe

No, only minor:

machinery/technology:

equipment/supply/maintenance:

personnel/skill/competence:

other:

30. What is the single most binding restriction on the activity of your enterprise? Describe

31. Generally speaking, do you find the formal legislation regulating Russian forest enterprises adequate and efficient?

Yes

No, explain why.

32. If it would be possible to change anything related to the Russian forest sector, what would you change?

33. Other comments of relevance?