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# Prerequisites for the Evolution of Markets

## An Institutional Analysis of Russian Forestry

A Project Proposal and its Funding Needs

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in cooperation with

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## SUMMARY

**BACKGROUND:** Contemporary research indicates that the wood supply from the USA, Canada, and the tropical areas will decline. The Russian forests are under-exploited, and have the potential to fill this gap. This is, however, primarily depending on whether adequate *institutional arrangements* will be developed in order to smoothen the entrance and the entrenchment in this new market. In this context it is important to emphasize that institutional arrangements are not to be understood as formal organizations and formally written laws and regulations. Institutions are "the rules of the game," i.e., those formal or informal rules that are *de facto* used by a set of actors. Such institutional arrangement, well functioning, is a basic prerequisite for the development of Russian forestry. Logically, a Russian forestry sector poorly governed will be a severe obstacle for the transition to a market economy.

It is important to realize that forests are no resources *per se*. Only within a framework of institutional arrangements can a forest resource be regarded as an asset in an economic sense. Socio-economic development requires new institutions to facilitate the processes. The forestry sector can be expected to play a significant role in this development. Trade, transport, management, marketing, etc., and, in the end, the *sustainable utilization* of the entire Russian forest resource, are dependent on the establishment of an adequate institutional framework. When referring to institutional arrangements relevant for forestry, we mean, among other things, the existence of market information systems, rules, technology, and so forth. We also refer to the clarity and simplicity of rules of trade, financing, contracting, etc. Finally, we refer to a whole cluster of variables related to property rights, ownership, usufruct rights, monitoring and sanctioning of infringements, etc.

**TASK:** The reconstruction of the economies in east European countries and the former Soviet Union (FSU) has thrown new light on economic theory and its usefulness has been questioned. In fact, it seems that we lack good theories of how such a reconstruction can (or should preferably) be achieved. There is, however, no reason to believe that the Russian forestry sector is served by copying all Western solutions and institutional concepts that were developed for centuries under quite different circumstances. What can be done then? Given the fact that we in some sense lack coherent theories, what might be attained is a better understanding of the prerequisites for the evolution of markets. This calls for empirical research and, in particular, an in-depth study of the institutional framework embedding the Russian forestry sector. The study will focus on two basic questions:

- 1) What is the exact configuration of the present institutional framework related to Russian forestry and its historical roots? How do central characteristics and features of this framework correspond with the possibility of a sustainable exploitation of Russian forests?
- 2) Compared to the forestry sectors in other countries (e.g., in Sweden, Finland, Canada, etc.), to what extent are crucial characteristics different or lacking?

**METHODOLOGY:** In studying the institutional arrangements related to Russian forestry a methodology that focuses the sets of rules that govern the activities at the local level will be utilized. Thus, the focus of interest is not how actors *supposedly* act (or should behave) according to some *formal* regulation, but how they *actually* behave. The *Institutional Analysis and Development* (IAD) framework is the most distinguished and tested framework for institutional analysis. (The IAD framework has been elaborated and used by a number of prominent scientists during the last decade.) It is based on a limited version of rational choice theory and it is sufficiently broad to be compatible with a wide range of theories, such as, collective action theory, transaction cost theory, game theory and constitutional choice theory.

The Russian forestry sector consists of many sub-sectors and branches. Given the bottom-up methodology of the IAD framework it is hardly possible to analyse the entire sector. Therefore, an *action arena* that performs a central function will be investigated. Forest industries such as sawmills, and pulp- and papermills, which are occupying such a central position in the institutional framework under which the forestry sector is governed, fulfill this criterion. Thus, the activities they perform also reflect a broader set of institutional arrangements which govern raw materials producers, processing industries, and others. Presumably, these institutions will guide ongoing and future activities related to the conversion of the former Soviet system to a prosperous market economy.

**EXPECTED RESULTS:** The aim of this project is to provide new and seminal results that will promote analysis along four different lines:

1. The project will collect current data from a specific, but important, sector of the Russian economy—forestry. The analysis of this data will broaden our knowledge regarding the very formation of market economies.
2. By identifying and analyzing obstacles and possibilities for the development of a more world market oriented, but sustainable Russian forestry this project can serve as a basis for policy making, not only within forestry but possibly also in other segments of the economy. A better understanding of the institutional framework related to forestry—its structure, function, and potentiality for commercialization—will reduce costs of information and facilitate actions taken by these actors and thus contribute to the reconstruction of the economy.
3. Finally, the project will broaden our understanding of the Russian privatization process, its components and different appearances. It will be demonstrated that privatization is not only a matter of changing ownership. It is also a question of reestablishing an institutional framework that accommodates these new, "privatized" units. The project will throw new light on the role of institutions in these efforts.

**TOTAL FUNDING NEEDS: 3233 Kkr**

## The Logic of the Project

1. The former USSR, and Russia in particular, possesses enormous forest resources. According to the UN-ECE/FAO forest resource assessment (European Forest Institute, 1996) the ex-USSR holds approx. 755 million hectares of forest lands. Siberia possesses about 40% of the world's coniferous forests. According to the same source all these lands still in 1995 belonged to the state indicating that the transition to a market economy is still at an initial stage, at least as far as the reconstruction of forest property rights is concerned.
2. Contemporary research indicates that the wood supply from the USA, Canada, and the tropical areas will decline. The Russian forests are underexploited, and have the potential to fill this gap. This is, however, primarily depending on whether adequate *institutional arrangements* will be developed in order to smoothen the entrance and the entrenchment in this new market. In this context it is important to emphasize that institutional arrangements are not to be understood as formal organizations and formally written laws and regulations. Institutions are "the rules of the game," i.e. those formal or informal rules that are *de facto* used by a set of actors. Such institutional arrangement, well functioning, is a basic prerequisite for the development of Russian forestry. Logically, a Russian forestry sector poorly governed will be a severe obstacle for such a development. This project will provide data which will make it possible to identify means and measures to overcome these institutional obstacles. The well functioning markets in Western societies, such as Sweden and Canada, will serve as obvious points of reference.
3. This project is based on the assumption that institutional arrangements provide the fundament of society and all its social and economic activities. By explicitly focusing on how these arrangements are configured within the Russian forestry sector, this project will contribute to a better understanding of the creation of social and political order in society. Such knowledge is essential for a great number of actors within and outside the Russian forestry sector; companies, trade associations, and others, grappling with the task of adjusting their behavior to the market economy. The functioning of contemporary market economies, forestry included, is carefully analyzed in a great number of works. However, when it comes to the deliberate creation of markets in transition we still lack good theories. This project will contribute new knowledge in this field.

## Forestry and Institutions

Stating that Russian forests are a "significant resource" is only reflecting a common sense attitude. There is no one-to-one relation between the size of a natural resource and its economic, or its utility, value. The situation in a great number of developing countries illustrates this fact. Developing countries often possess significant resources, but due to political, organizational and technological factors their resources are not contributing to the well-being of their people. Accordingly, forests are no resources per se. Only within

a framework of institutional arrangements can a forest resource be regarded as an asset in an economic sense.

Generally, in the literature, a resource is something that is considered useful and valuable in the condition it is found (cf. for example Randall, 1987:12). However, the attraction of a resource cannot be defined instantly or once and for all. Two other features are necessary for making a natural resource a valuable asset. The first is *technology* and the second is the *institutional structure* embedding the resource (Kant & Nautiyal, 1992). Technology within forestry, as well as within all other sectors, comprises the state and the quality of physical capital, but also the human capital that is involved in the activities related to the resource. The structure, usefulness and appropriateness of technology is closely related to the other general feature of a resource, namely, the *institutional arrangements*. Without adequate institutional arrangements any technology is worthless (Kant & Nautiyal, 1992:7).

Institutions are "the rules of the game" (North, 1990), and without them no economic or social activity can take place. Institutions facilitate the interaction between people and organizations. Systems of rules—well developed and configured—are a basic prerequisite for markets to run smoothly (Milgrom *et al.*, 1985). Institutions provide stability, they regulate and safeguard trade, and they make economic and social action foreseeable. Accordingly, institutions are essential to keep transaction costs on a socially acceptable level. With easy access to reliable institutional arrangements, costs for contracting and conflict resolution are kept on a low level, compared to a situation where such arrangements are loose or absent.

Thus, in order to become a valuable economic asset the Russian forest resources are depending on the existence of close relations between technological development and institutional reconstruction. Massive investments in forest technology, for example, is not fruitful if such a technological renewal is taking place in an institutional vacuum unable to accommodate the process. Stable institutional arrangements are required for such transactions to produce expected results.

More precisely, when referring to institutional arrangements relevant for forestry, we mean, among other things, the existence of market information systems, rules, technology, and so forth. We also refer to the clarity and simplicity of rules of trade, financing, contracting, etc. Finally, we refer to a whole cluster of variables related to property rights, ownership, usufruct rights, monitoring and sanctioning of infringements, etc.

In summary, to be successfully reconstructed, the Russian forestry sector is depending on the establishment of an adequate institutional framework. The old institutional arrangements, with their basis in the specific property rights regime developed during the socialist period, are neither possible nor desirable to keep. Socio-economic development requires new institutions to facilitate the processes. The forestry sector can be expected to play a substantial and important role in this development. Trade, transport, management, marketing, etc., and, in the end, the *sustainable utilization* of the entire Russian forest resource, are dependent on the establishment of such a framework.

## Lack of Theory and Knowledge

The reconstruction of the former economies in Eastern Europe and the former Soviet Union (FSU) has thrown new light on economic theory and its usefulness has been

questioned. In fact, it seems that we lack good theories of how such a reconstruction can (or should preferably) be performed. As Benham *et al* (1995:1) puts it: "While economic theory expounds upon the workings of a market system, it does not tell us how to build one." The same goes for mainstream political theory with its focus on formal political structure. Traditional political theory, which presupposes an already existing state, does not provide appropriate guidance for on-going or desirable activities aimed at building such a system of governance.

Institutional arrangements are *path dependent*, they primarily reside in a local context (Putnam, 1993; Kaminski, 1992; Benham *et al*, 1995; Ostrom *et al*, 1994). Therefore, they are also hard to change through a top-down approach. By providing particular incentives public policies might discourage or encourage specific types of behavior. But, the basic structure of the local context is hard to change, and it is in this environment that local actors operate. Institutional arrangements are formed by the daily activities performed by those who are involved in the business. However, as Benham *et al* (1995) argue, most economic reform proposals are based on a top-down approach. At the same time neo-institutional economics tells us that institutions are evolutionary products, and that they are developed primarily from below.

The lessons of history also underpins the necessity of a credible state (North & Weingast, 1989) which can serve as an ultimate guarantor for property rights. But, in the long run, the state cannot guarantee anything without the support from lower level institutions—formal or informal—upon which its authority is based. Therefore, it is quite logical to argue—as Behnam *et al* (1995) do—that the major task for Eastern Europe is to find ways to move away from old sets of norms, rules and mental models. This will be done through the creation of new institutional arrangements based on, and at the same time guiding local activities. Such a task is definitely relevant for the forest sector as well. The crucial question is, however, how such a development can be accomplished?

There is, however, no reason to believe that the Russian forestry sector is served by copying all Western solutions and institutional concepts that were developed for centuries under quite different circumstances. What can be done then? Given the fact that we in some sense lack coherent theories, what might be attained is a better understanding of the prerequisites for the evolution of markets. This calls for empirical research.

A large number of research projects are currently working on the broader international scene. The ongoing project studying the potential future raw materials supply from Russia and its dependence on internal transport costs (Radetzki, 1995) is one important effort. The Sustainable Boreal Forest Resources project at the International Institute for Applied Systems Analysis (IIASA) is another. The European Forest Institute is hosting a project entitled "Legal, administrative and policy strategies for securing sustainable development of the forestry sector in Russia, Belarus and Ukraine." The International Center for Economic Growth, Washington University, St. Louis, is dealing more generally with institutional reform in Eastern Europe, etc. All these programs and projects will provide useful knowledge of the transition of the socialist economies.

However, when it comes to the situation in the Russian forestry sector, what is particularly needed is in-depth studies. These studies ought to focus on two basic questions:

- 1) What is the exact configuration of the present institutional framework related to Russian forestry and its historical roots? How do central characteristics and features of this framework correspond with the possibility of a sustainable exploitation of Russian forests?
- 2) Compared to the forestry sectors in other countries (e.g., Sweden, Finland, Canada, etc.), to what extent are crucial characteristics different or lacking? In what respect are such characteristics and prerequisites for markets already established or under their way to evolve?

The first question is based on the assumption that in order to understand how the forest sector *de facto* operates, and to assess its potentials and shortcomings, it is necessary to scrutinize the institutional arrangements that govern relevant actors within the sector. In short, we need to know how the sector is organized, in terms of activities and institutional structure. Otherwise we do not know what we talk about when we use the label "forest *resources*" In order to collect this type of data a strong Russian involvement is necessary.

The second question has a comparative perspective. Since forestry is of significant importance in a great number of Western countries we know already a great deal about how this sector is organized, in terms of property rights systems, legalities, configuration of forestry organizations, education, marketing, networking, technological innovation, etc. For example, in Sweden the ownership of forest lands, logging enterprises and processing industries is spread among different types of owners, private, state, companies and commons. Still, it can be argued that the forest sector is quite prosperous and competitive (while at the same time the annual forest growth exceeds the amount harvested). Without having explicitly performed any comparisons our thesis is that this configuration can provide an interesting reference for a comparison with a forestry sector under renewal, such as the Russian forestry sector.

In summary, these questions emphasize the desirability of a broad research design for a project addressing the topics discussed earlier in this paper. The next section describes how such a research project can be structured and conducted.

## Studying Institutional Arrangements: Research Design

Studying the institutional arrangements related to Russian forestry requires a methodology suitable for investigating the sets of rules that govern the actors involved. A basic question to be addressed is what types of rules do *actually* guide the activities at the local level. Thus, the question is not how these actors *supposedly* behave (or should behave) according to some *formal* regulation. The *Institutional Analysis and Development* (IAD) framework is the most distinguished and tested framework for institutional analysis (Oakerson, 1992; E. Ostrom, 1995, Ostrom, Gardner & Walker, 1994; Sabatier, 1991; Thomson, 1992; Bogason, 1994). It is based on a limited version of rational choice and it is sufficiently broad to be compatible with a wide range of theories, such as, collective action theory, transaction cost theory, game theory and constitutional choice theory. The framework is described in detail elsewhere and will only be briefly recapitulated here. (For a comparison with other frameworks, see Sabatier, 1991 and Sproule-Jones, 1993.)

The focal point of the IAD framework is a specific *action arena*, e.g. irrigation systems, policing, or forestry (cf. Fig. 1).

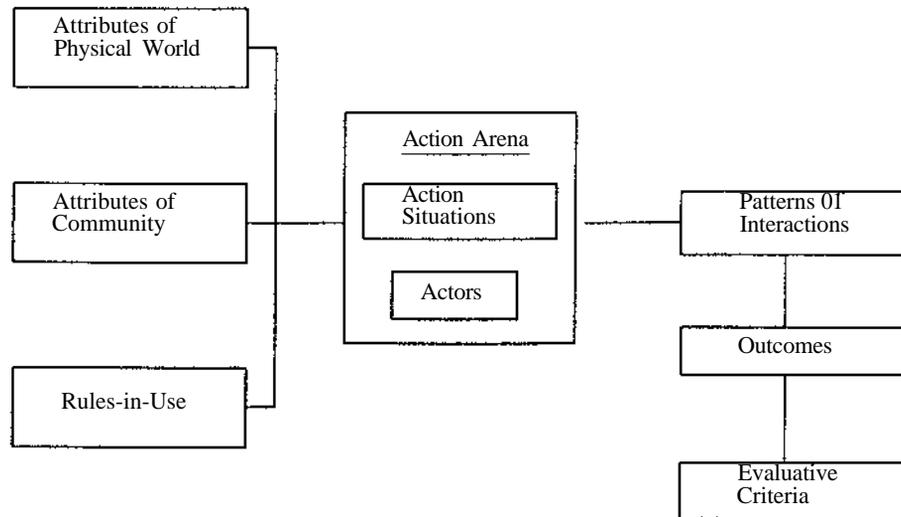


Figure 1. A framework for institutional analysis (Source: Ostrom, *et al.*, 1994:37)

Action arenas are supposedly composed of two clusters of variables: 1) an *action situation* involving participants, positions, actions, information, etc., and 2) *actors* who have preferences, information-processing capabilities, and so forth (Ostrom, *et al.*, 1994:29 ff.).

According to the IAD framework, action arenas can be understood with reference to three "factors": *attributes of the physical world*, *attributes of community*, and *rules-in-use*. All together, this constitutes a complex set of relations that can be observed as patterns of interactions. These activities generate specific outcomes. The outcomes can be assessed by the analysts using evaluative criteria such as economic efficiency, fiscal equivalence and equity (Ostrom, E., Schroeder & Wynne, 1993).

Action arenas are assumed to be identified with reference to a "focal problem", such as, for example, how sawmills acquire timber and convert it to marketable products, planks, battens, etc. In this way the IAD framework enables us to capture both social and political order, i.e., to reveal how various actors organize their relations in a given subject area. As a result of using the bottom-up methodology of the framework it can, in fact, be found that the action arena in focus is organized without any intervention from formal political agencies. In that case, what is found is an example of social order, i.e., institutional arrangements defined as rule-ordered activities.

Assumptions of precise relations between single variables cannot, and should not, be deduced from the framework. Such hypotheses require specific models and appropriate theories. Like all frameworks, also the IAD framework is compatible with a multitude of theories. Consequently, collective action theory can also be used within this framework.

## Using the IAD Framework for Analyzing Russian Forestry

A country's forestry sector consists of many sub-sectors and branches. Given the bottom-up methodology of the IAD framework it is hardly possible to analyze the entire Russian forestry sector. Therefore, an action arena that performs a central function in the forestry sector must be chosen.



*Figure 2. Forest industries the central action arena of forestry*

Forest industries, such as sawmills, and pulp- and papermills, are occupying a central position in the institutional framework under which the forestry sector is governed—between raw materials producers and the market for manufactured products. Different institutional arrangements apply to these three sectors.

First, specific rules, regulations and different ways of conduct comprise the institutional arrangements of the raw materials production. This institutional framework is presumably reflected in the behavior of the single industry, e.g. a sawmill. Questions of the following type addressed to managers and others will provide the data needed: How and by whom are decisions taken? From where and how is authority to take decisions derived? How and from whom is the timber acquired? Is the logging based on stumpage sale or felling contracts? Is the supply and quality of the timber regarded as sufficient? How is the timber transported? What types of systems are developed in order to safeguard and assess the quality of the timber, procedures of sorting, security of delivery, etc.

Second, the activities of the industries themselves are also subjected to specific rules and regulations, for example with regard to property rights, business administration, contracting and monitoring. This type of information is also possible to acquire from the industries, but might also be found in public sources.

Third, all commercial sawmills are oriented towards the market with buyers such as processing- or building industries. All markets are governed by rules and regulations, both formal and informal. In order to understand to what extent the Russian forest sector is actually being reorganized after the Soviet era these rules must be mapped. The following types of questions will clarify this issue: How is the marketing of timber products organized? Who buys the products from the sawmills? Are timber products locally distributed or do the sawmills produce for export. What are the relations to the banking system, etc.?

To sum up, in this project the Russian forest industries is the action arena under focus. Considering the fact that these industries occupy a middle position between the raw materials producers and the processing industry, this action arena is especially important. Being the "center" of the activities, the behavior of the Russian, pulp and paper industries, sawmills, and others, presumably reflect the relevant institutional framework governing the transition to a market economy.

## Expected Results of the Study

The establishment of the Russian institutional framework related to forestry cannot be understood by focusing on formal rules and decisions only. Markets are built from below, and therefore the data collection must be performed on this level. The activities actually performed by raw materials producers, sawmills, processing industries, and others, reflect the Russian forestry institutions. Presumably, these institutions will guide ongoing and future activities related to the conversion of the former Soviet system to a prosperous market economy. The aim of this project is to provide new and seminal results that will promote analysis along three different lines:

1. The functioning of contemporary market economies, forestry included, is carefully analyzed in a great number of works. However, when it comes to the deliberate creation of a markets in transition we still lack good theories. This project will contribute new knowledge in this field. The project will collect current data from a specific, but important, sector of the Russian economy—forestry. The analysis of this data will broaden our knowledge regarding the very formation of market economies.
2. The project will also deepen our understanding of the ongoing processes of transition in the former Soviet Union. One central feature of these processes is privatization. However, privatization applied to Russian enterprises is an ambiguous concept (Dolgopiatova, 1996). By using the Russian forestry sector as an example it will be possible to identify and discuss different patterns of reconstructing property rights. Since the forest recourses are enormous, this is a very urgent task. Thus, the project will broaden our understanding of the privatization process, its components and different appearances. It will be demonstrated that privatization is not only a matter of changing ownership. It is also a question of reestablishing an institutional framework that accommodates these new, "privatized" units. The project will throw new light on the role of institutions in these efforts.
3. Finally, by identifying and analyzing obstacles and possibilities for the development of a more world market oriented, but sustainable Russian forestry this project can serve as a basis for policy making, not only within forestry but possibly also in other segments of the economy. A better understanding of the institutional framework related to forestry—its structure, function, and potentiality for commercialization—will reduce costs of information and facilitate actions taken by these actors and thus contribute to the reconstruction of the economy.

## Organization of the project

The project has been discussed at two different occasions. First, at the International Institute of Applied System Analysis (IIASA) in Vienna October 24-27, 1996. The purpose of this meeting was to establish contact with representatives for the Sustainable Boreal Forest Resources project and to discuss to what extent the project could benefit from the results of this project and from its extensive socio-economic database in particular. As a direct result of these contacts the project idea was presented at a

workshop, "Dialogue on Sustainable Development on the Russian Forest Sector", in Moscow, November 12-14, 1996. The purpose of this presentation was to launch the project idea and to discuss its contents with the community researchers and official stakeholders involved in the Sustainable Boreal Forest Resources project. A further aim was to establish contacts with qualified and interested Russian collaborators. Based on these meetings the project will be organized as follows.

## Methodology

Four regions reflecting different geographical, socio-economic qualities within the boreal forest zone will be selected. The selection of these areas is based on the hypothesis that local circumstances, such as infrastructure facilities, banking system, property rights, etc., correlate with the behavior of the forest industries. Therefore it is important that the cases reflect different geographical and cultural qualities. The following areas are under consideration: North West Russia (Arkhangelsk), Central Russia (Serpukhov), Novosibirsk, and the Far East.

Under supervision of the Swedish research team local researchers will collect data from a representative sample of forest industries. These data will cover institutional variables along the lines previously indicated. From the IIASA database aggregated socio-economic data for the specific regions will be compared with the result from the local investigations. This will make it possible to test to what extent the very behavior of the single industry reflects a broader set of variables that make up what in the literature is called the "civil society", "social capital", etc. (Putnam, 1993). For example, are differences in the functioning of the forest industries correlated with socio-demographic indicators, the level of medicare, the participation in education, sports, cultural events, and so forth.

Each case will make up a separate report that can be used as a foundation for scenario building and policy exercises in order to reform Russian forestry. These exercises will be arranged within the extended IIASA program.

One of the researchers, who will be based at IIASA in Laxenburg, Austria, will have full access to the IIASA database and the institute's expertise. This person, being a fluent Russian speaker, will cover Russian forest legislation and policy-making with specific emphasis on environmental issues.

A doctoral student, also speaking Russian fluently, will cover the historical development of property rights with a special focus on forest lands from ancient times to the present era of transition. The main question to be answered is to what extent and in what respects do the historical roots affect, ameliorate or hinder the present development towards a market economy. (Tentative title of dissertation: *Property Rights and the Implications for an Economy in Transition.*)

Another doctoral student connected to the Division of Economics, Lulea University, focuses on the costs of timber transportation. This person is supervised and financed by the Lulea University. (Title of dissertation: *Exports of Pulpwood and Chips from the Former Soviet Union: The Impact of Ongoing Political and Economic Reforms.*)

## Participants

Lars Carlsson, Ph.D. in political science and implementation research: project leader and coordinator.

Nils-Gustav Lundgren, Ph.D. in economic history: assistant project leader, responsible for the modeling of aggregated data.

Mats-Olov Olsson, M.A. in political science and economics: interpreter, responsible for collecting data on policy making. Olsson is also responsible for coordinating the project with the IIASA program.

Tomas Malmlöf, B.A. in political science, M.A. in environmental planning and design: doctoral student in political science, interpreter. Malmlov is jointly supervised by Carlsson and Lundgren.

Mats Nilsson, M.A. in resource economics: doctoral student in economics. Nilsson is supervised by Marian Radetzki, Ph.D., professor in resource economics at Lulea University.

### Russian Collaborators:

Andrei V. Moukhin, Ph.D. Research Group leader at the Committee for Productive Forces and Natural Resources, Russian Academy of Science, Moscow.

Andris E. Kleinhof, Dr. Sc, Professor and head of the Department of Longterm Prediction, All-Russian Research Institute for Silviculture and Mechanization of Forestry, Moscow.

Yury Blam, Ph.D. Institute of Economics and Organization of Industrial Production, Siberian Division of the Russian Academy of Science, Novosibirsk.

Roman Popadyuk, Dr. Sc, International Forestry Institute, Russian Academy of Sciences, Moscow.

Lars Ohlsson, Ph.D., private consultant, Moscow, Russia.

Janos Molnar, Dean of The Archangel Forestry & Engineering Institute (Dr. Molnar is a contact that has to be reinitiated. We have not talked with him yet regarding this very project.)

Vadim Zausaev, Dr. Director of the Far Eastern Institute of Market Economy Khabarovsk

## Funding Needs

Project time: Two years, September 1997 - September 1999,

Total funding needs:

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