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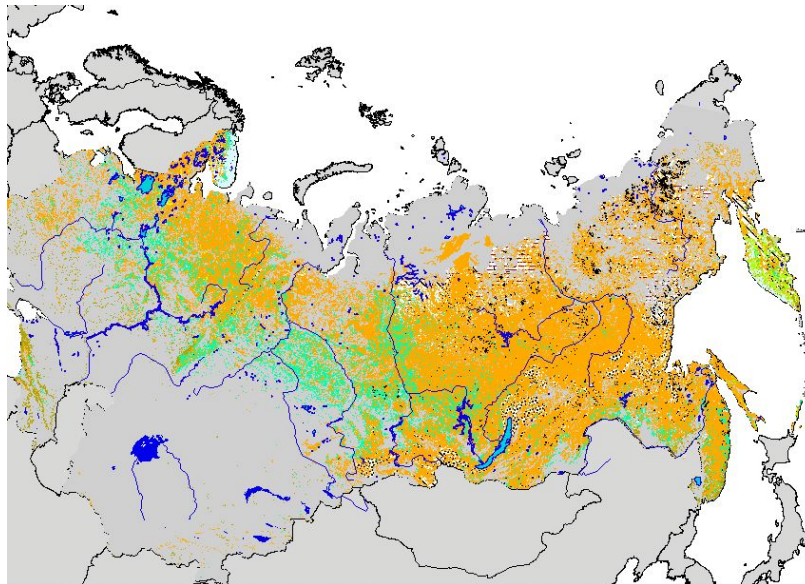
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Strengthening Russia's Engagement with Market-Based Corporate Social Responsibility (CSR): Conclusions and Recommendations from Experience in Forestry and Lessons for Other Sectors

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1. Executive Summary

FIAS designed this study for the Russian Ministry of Economic Development and Trade and the Federal Forest Agency to analyze voluntary forest certification in Russia as a tool of Corporate Social Responsibility (CSR), to measure the economic benefits, if any, to promote these practices in the forestry sector, if warranted, by suggesting the removal of administrative barriers, and to find applications to other sectors of the Russian economy.

The study describes the world-wide development of voluntary forest certification as a mechanism to provide international and domestic buyers with an assurance that Russian forest products are not derived from environmentally destructive practices. The development of forest certification is shown to be market driven and demand is increasing for certified forest products (CFP) as corporations become more environmentally aware at the board level. Concurrently, government procurement agencies are also demanding ethical forest products and political initiatives such as Forest Law Enforcement, Governance and Trade (FLEG(T)) seek to inhibit trade in illegal logging.

Russia continues to be a major player in the forest products trade - it contains vast forest resources of global ecological significance which also play a significant social and economic role in the Russian Federation.

The Russian forest industry mirrors the reaction internationally to market demand for CFP as evidenced by a dramatic increase in voluntary forest management certification by the Forest Stewardship Council (FSC) and other ratings agencies across the globe. Other CSR indicators in Russia such as eco-rating schemes are becoming increasingly important.

Traditional forest management practice in Russia falls well short of international standards but the effects of certification are leading to positive improvements in silvicultural practice. The study analyses the costs of implementing certification, as the main CSR indicator, against the benefits achieved based on the increased competitiveness of Russian companies. The model developed shows a short term economic cost to companies against long term economic gain.

Costs of certification have been significant for the companies carrying out this CSR initiative but there is scope for the public sector to aid the streamlining of certification by creating regional centers to offer companies training in certification implementation and offering e.g. more cost effective High Conservation Value Forests (HCVF) mapping and other ecological expertise on a regional basis. Opportunities exist for smaller companies to certify more cost effectively through the SLIMF (Small & Low Intensity Managed Forests) program, the certification of Leskhozoes and the application of Group Certification, rather than through the certification of individual harvesting concessions. This would also benefit small producers.

Certification results in a great improvement in silviculture, mainly as a result of better planning, but this still falls short of international best practice because of under funding in infrastructure and new technologies and contradictions in legislation. There is a clear public sector role to review stumpage fees and forest management funding, to create

legislation and the necessary enforcement mechanisms to inhibit illegal logging, and to better protect HCV forests.

Most certification has been carried out by the industry leaders and this has masked the chronic lack of investment in planning, infrastructure and machinery that the forest management and harvesting sectors need. Targeted public sector involvement in infrastructure improvements, the creation of a good investment climate that supports corporate upgrading of harvesting technology, and the promotion of certified forest management would bring the Russian forest sector into line with international best practice.

For added value producers, market access as a result of certified wood supply can bring high returns as certification opens up new and more lucrative markets, or allows these producers to maintain an existing customer base in markets that demand more and more certified products. The public sector could take the lead, or at least be pro-active, in promoting the image of Russian forests as global reservoirs of sustainable forest products in the key markets for Russian forest products.

There are opportunities in other economic sectors to develop CSR practice on the basis of the experience in the forestry sector. The Marine Stewardship Council certification system exists and is being implemented by pioneering companies in Russia. The public sector could facilitate and promote this initiative based on the current success of FSC certification today in Russia.

As a result of lack of finance, the Russian agriculture industry is mainly organic. It is not the explicit focus of Russian agriculture to meet the needs of organic consumers, this fact is more the byproduct of an agricultural system lacking the finance, technology and know-how to apply large-scale industrial farming methods employed across Europe and North America. However, this situation could be harnessed, and the promotion of international labels for Russian agricultural products could be a key initiative for the public sector to aid agricultural exports.

The study provides a set of recommendations for action in the following fields:

- Adapting forest legislation and norms to achieve international standards
- Creation of public/private partnerships and capacity building to reduce certification costs
- Investment in brand image of Russian forest products, including training in and awareness of CSR
- Support for small forestry companies to market certified products
- Dissemination of information from the developments in CSR in forestry into the agricultural and fisheries sectors

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2. Introduction

From June to November 2004, FIAS conducted two exploratory missions to Russia that included meetings with representatives of the Ministry of Economic Development and Trade (MEDT), the Ministry of Natural Resources, the Federal Anti-monopoly Service, other government agencies, business associations and companies in Moscow and in the Irkutsk Oblast. The MEDT and the Ministry of Natural Resources (Federal Forestry Agency), have requested technical assistance in Corporate Social Responsibility (CSR), an issue which looms large on the political agenda of the Russian Federation. This is particularly true in the aftermath of a meeting focused upon the social responsibility of business held on 1st July 2004 between President Vladimir V. Putin and Russia's business leaders.

President Putin is promoting socially responsible business in order to achieve better social conditions. The President has called for Russian companies to sign social contracts with regional administrations and has also promoted the benefits of CSR to the corporate sector in a series of meetings, held between 2003 and 2005, with key Russian companies, members of the Russian Union of Industry and Enterprise and the Trade Chamber of Russia. The Russian Prime Minister, M. Fradkov, is promoting government-business partnerships in different economic projects such as infrastructure, construction and in the hi-tec sector.

The Russian forest sector, compared with other branches of the Russian national economy, has an unusually high interest in Corporate Social Responsibility (CSR). This interest is mainly driven by market mechanisms such as voluntary forest certification, public procurement (in some of EU member states) and responsible investment criteria demanded by lenders. As a result, eight out of the ten largest Russian forest product companies have already commenced implementation of ambitious CSR programs. These programs include FSC certification and the implementation of the ISO 14001 environmental management system. In addition to the FSC and ISO approaches, the Russian forest sector employs other CSR mechanisms, including eco-ratings and wood tracing systems.

Trade intermediaries, particularly do-it-yourself (DIY) retailers in Western Europe, have been catalysts in moving markets towards certified forest products. In every DIY store in UK and Germany, there is a wide variety of forest products on display with the FSC logo. In the last few years, the supply base of certified wood products has widened and the big retailers have started to communicate their environmental targets more explicitly. It is now common that these chains announce target percentages of certified items in their product range, or require a minimum percentage of certified fiber to be used in their products. With CSR reporting and sustainability entering into the board room of many corporations, the demand for certified forest products will continue to increase.

Growth of forest certification world wide has been increasing rapidly. In the year 2000, 110 million hectares of forest were certified world wide, and by June 2004 the area of forests certified worldwide totaled 184 million hectares (4.8% of the world's forests). The leading certification systems worldwide are:

- Forest Stewardship Council (FSC, now 67.2 mln ha)
- Programme for the Endorsement of Forest Certification Schemes (PEFC), formerly known as the Pan European Forest Certification System (126.9 mln ha, including 63,7 mln ha of Canadian CSA scheme)
- Sustainable Forestry Initiative (SFI) in North America (51.4 mln ha)
- Canadian Standards Association (CSA) system (63.7 mln ha)
- American Tree Farm System (ATFS) in the United States (10.5 mln ha)

In addition, the international Dutch Keurhout system has approved 1.48 million hectares of independently-certified forests, and Malaysia's MTCC (Malaysian Timber Certification Council), a prominent national certification system, has certified 4.1 million hectares.

Forest certification is all about achieving a set of standards in the management and renewable exploitation of forests (FSC principles are given in appendix 1. as an example) The management and operations of a company operating in the forest are **independently** assessed against these standards and if the standards are achieved, a certificate is awarded and the performance of the company monitored on an annual basis. The whole process must be transparent and open to all stakeholders.

The Russian forest industry, like the industry worldwide, is responding to the market demand for certified forest products. Russia received its first FSC certificate in the year 2000, covering around 40,000 hectares, and today has 6.7 million hectares of certified forests.

In other sectors of the Russian economy, however, CSR development is at a rather early stage. In the oil and gas, marine and agricultural sectors, various CSR programs are in the process of development. However the forest sector is the leading example of market driven CSR in the Russian national economy, and this experience should be harnessed as a basis for future CSR programs in other economic sectors.

The Russian corporate forest sector has indicated a desire to receive the project output. The level of investment made by leading Russian forest product companies such as the Ilim Pulp Enterprise, Svetogorsk Pulp and Paper mill, Mondi Business Paper Syktyvkar, Titan group and JSC Volga into different CSR programs is measured in the tens of millions of USD (mainly the ecological modernization of equipment and emission reduction programs). Their investments in forest management CSR programs, such as FSC certification, are more modest, but can already be measured in millions of USD.

As an example, Ilim Pulp Enterprise expect their return from CSR programs to be in the following fields:

- Improved social stability and the well-being of the local population and their workforce
- Reduction of fines from environmental and forest authorities
- Improved inward investment climate for international investors
- Better access to environmentally sensitive markets
- A vastly improved image in Federal and regional government.

However, to date, no company has been able to make calculations and estimations of expected returns from CSR programs. This issue has been addressed to the project consultants.

Based on the request of the Ministry of Economic Development and Trade (MEDT) and the Ministry of Natural Resources (Federal Forestry Agency), as well as support from the World Bank Groups 's forestry and country teams, FIAS has designed this project to focus on voluntary forestry certification in Russia, given progress to date, and consideration of the potential consequences for market-based voluntary certification and/or CSR reporting in other industry sectors. Key project tasks are:

1. Voluntary certification to date in the forestry sector

The project will analyze the processes followed and costs incurred of voluntary certification completed to date. This analysis employs a value chain model, with the objective of identifying potential efficiency gains (in time, cost and service provision), as well as identifying opportunities for streamlining the investment required for upgrading forest management practices and production processes to meet certification standards. The project will explore the feasibility of using simplified standards and streamlined procedures in order to reduce unintended distortions (e.g. prohibitive costs for smaller leaseholders) in ensuring properly managed can obtain certification.

2. Public sector roles

The project will consider options for stimulating increased market reward (e.g. increased financial market interest in eco-rating schemes, public procurement weighting for sustainably harvested wood products). It will also assist the MEDT in re-designing the evaluation criteria by which their staff currently assesses competition entries in the annual competition for 'High Social Efficiency' by regions, sectors, and types of social activity.

3. Application in other industry sectors:

The starting point for this project will be CSR issues in the forestry sector. Lessons learned from this experience can be applied and modified to other economic sectors. A final report to the Ministry of the Economy will draw together these recommendations and conclusions from the forestry sector's experience with voluntary certification, and offer recommendations for public sector role's to stimulate these market-based CSR approaches in other key industry sectors.

This research is one of the first attempts to analyze the cost-benefits of CSR and, in particular, the forest certification program. The study aims to illuminate possibilities for the Federal Government to remove barriers and improve conditions for market driven CSR in the forest sector. Previous State lead initiatives have not, and are not, encouraging CSR (e.g. Mandatory Forest Certification).

The results of the project will be promoted in a series of conferences and workshops, held in Russia in late autumn 2005.

3. Corporate Social Responsibility in the Global Forest Sector

3.1 Definition of Corporate Social Responsibility

The World Business Council for Sustainable Development (WBCSD) in its publication *"Making Good Business Sense"* by Lord Holme and Richard Watts, used the following definition: *"Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large"*. Another well known definition of CSR focuses upon how companies manage their business processes to produce an overall positive impact upon society. (source: www.malenbaker.net)

The WBCSD report also provided evidence concerning the different perceptions of what CSR should mean from a number of different societies across the world. Definitions include: *"CSR is about capacity building for sustainable livelihoods. It respects cultural differences and finds the business opportunities in building the skills of employees, the community and the government"* from Ghana; through to *"CSR is about business giving back to society"* from the Philippines.

At the start of the decade, CSR was often seen as an "optional extra" by business leaders and as an adjunct of their burgeoning public relations functions. With a spate of corporate scandals rocking faith in business ethics, that position appears to have changed for good. However the feeling remains that CSR is too often more a case of 'business doing good' rather than 'doing good business'.

It is clear that we are now witnessing a new developmental phase for CSR. Large corporations, NGOs and governments are taking the complex array of issues that CSR embraces far more seriously than ever before. Perhaps for the first time, mainstream thinking on CSR is beginning to accept that there need be no inherent contradiction between strong business ethics and effective capitalism.

Fear of corporate scandal, mere exhortation or a growing legislative 'rule-book' seem insufficient incentives for many businesses to place CSR on their corporate radar. In part, the reason for this can be attributed to the fact that the business gains that can be derived from an active and fulsome approach to CSR have hitherto not been sufficiently obvious or compelling. There are plenty of positive role models and stories, but insufficient quantitative evidence that CSR activity can deliver tangible business benefits. CSR appears in many guises – corporate social responsibility, sustainability, corporate responsibility, business ethics, corporate citizenship, and the environment and society.

The component parts of CSR can also vary, yet at its most basic level it represents good business practice. The available literature can be organized into four broad categories:

- CSR – enhancing the 'brand'
- Delivering improved business performance through committed employees
- CSR and customer preferences (i.e. meeting customer needs)

- CSR and strategic business 'fit'

There is, however, conclusive evidence that CSR needs to be placed at the heart of any business in order for it to deliver higher and sustained improvements in performance. In other words, the debate about CSR has moved from the anecdotal to the empirical.

The challenge now, for CSR practitioner and board member alike, is to foster the recognition that CSR represents good business practice for every function, and is a core element of a successful enterprises business process. CSR should not be confined to programs conducted by a few departments in isolation from one another.

Empirical evidence, such as that presented in this report, will promote the understanding of policy makers as they discuss current and future policy development. The overall conclusion is that high business performance can only be achieved through the adoption of an integrated approach to CSR, embracing the needs of all stakeholders. CSR is no longer merely fashionable, but an essential component in delivering improved business performance, requiring committed leaders to put it at the heart of their businesses (Source: Holme and Watts, 2000, CSR Making Good Business Sense, WBCSD (1) www.wbcd.org/includes/getTarget.asp?type=d&id=ODc5Nw)
<http://www.wbcd.org/includes/getTarget.asp?type=d&id=ODc5Nw>

3.2 Forest Certification as the Foundation of CSR in Global Forest Sector

Corporate Social Responsibility in the forest sector has specific characteristics that differentiate it from other sectors of natural resources management. These characteristics link the forest industry to forests - which possess strong environmental and social values. Forest ecosystems harbor the majority of diversity of life on Earth, and provide home to 70-75% of terrestrial species. Forests also provide shelter and sustenance for millions of indigenous people, whose traditional way of life is often destroyed by irresponsible and illegal forest management practices.

The majority of forest product companies share the vision that CSR in the forest sector is better described as Environment and Social Corporate Responsibility (ESCR). Many researchers have identified the connection between the on-going global forest crisis and the increasing development of ESCR within forest product companies as a direct reaction to this crisis (2).

The global forest crisis is clearly illustrated by FAO data in Table 1 below. The FAO data show that the reduction in afforested land (mostly tropical) stands at more than 11 Million hectares per year. The main cause attributed to this decline is logging without reforestation, including the conversion of forest cover to agricultural land.

Table 1. Rates of deforestation in the world. FAO (United Nation Food & Agricultural Organization) data

(http://www.fao.org/documents/show_cdr.asp?url_file=//docrep/003/x4227e/X4227E04.htm)

| Region | Forest area (mln ha) | Annual change of forest area (thsd ha) | Annual change of territory (%) |
|---------------------------|-------------------------|--|--------------------------------------|
| Africa | 520 | -3,748 | -0.7 |
| Asia | 503 | -2,901 | -0.6 |
| Oceania | 91 | -91 | -0.1 |
| Europe | 933 | +519 | +0.0 |
| North and Central America | 536 | -274 | -0.1 |
| South America | 871 | -4,774 | -0.5 |
| World total | 3,454 | -11,269 | -0.3 |

Many rare and vulnerable species are under threat due to harvesting and subsequent timber trade. Indigenous people's culture and lifestyle is threatened. In boreal forests, illegal logging, cutting of pristine forest, reduction in biodiversity and social problems all exist.

The key driver of global deforestation is the international timber trade (2), which currently trades in responsible forest products on the one hand, and products of doubtful origin on the other. When one takes into account the fact that different certification systems cover only 28-30% of all commercial forests in the world (around 180 Million ha from 600 Million), timber trade with non-certified sources still prevails (3).

Forest product consumption is located in developed countries (and now also in China). Attempts to boycott the use of tropical timber (e.g. in Austria at the beginning of the 1990's) all failed. ENGO's started to protest against large retailers (B&Q, IKEA, Home Depot etc.) in the late 1980's and early 1990's before the development of forest certification. In every protest, the DIY companies lost not only money, but also reputation, thus denting the heavy investments they had made in building brand images. The dilution of this Brand value had a negative knock-on effect in their traded stock value. Markets should ideally separate good wood from bad wood, and currently the only available separation criterion is voluntary certification. DIY companies started to consider safeguard options, and certification was selected as the most promising approach.

The idea of independent forest certification was first proposed by ITTO (International tropical timber organization) in the beginning of the 1990's, but was not realized in practice (4). The first practical and working example became the Forest Stewardship Council, founded in 1993 by ENGO's, retailers and with support from some US foundations. Other systems (PEFC, SFI, CSA) were developed and introduced as a response to FSC, generally by the forest industry sector. The FSC certification process stands out from the other systems due to the strictness of its approach, making it difficult for some companies to attain FSC certification. The other schemes, developed by the forest industry, are often less strict in certain areas relating to stakeholder involvement, biodiversity conservation, indigenous people rights protection and social issues.

Certification was the first, and continues to be, the most powerful driver of CSR both for producers and for buyers of timber and timber products. The northern consumer markets are driving CSR in the forest industry worldwide. Many local markets (e.g. Brazil, and to some extent Russia) are now also sensitive to certification.

The move towards certification gained momentum with the development in the UK of the WWF 95 and 95+ groups. ENGO's initiated a drive to target the retail sector in northern consumer markets by facilitating widely publicized groups of companies announcing a commitment to develop a responsible and ethical purchase policy. This was defined as a goal to purchase only certified wood and wood products by the year 2000 (www.gftn.org).

The ENGO's were an effective change agent in the purchasing practices of retailers in their efforts to satisfy market demand. ENGO's actions continue to be very professional and focused, resulting in an increased awareness of CSR and risk management in both corporations and in Government bodies in Northern consumer markets. The result of these initiatives is a clear increase in the number of companies and corporations adopting forest certification as the key CSR tool in their purchasing policies (Home Depot, Kingfisher, IKEA, Marks and Spencer et al.)

3.3 Incentives for Forest Certification

3.3.1 Growing Demand for Certified Products

The demand for labeled certified forest products is clearly growing rapidly, with more and more producers recognizing the need to offer a full range of certified products. NGO's are also re-focusing their campaigns to cover the entire forest product range, moving away from single targets such as garden furniture (where it is now difficult to find non FSC labeled products in the UK and Germany) to whole product sectors such as pulp and paper.

As an example of an industry response, Domtar Inc. of North America (www.domtar.com) and SCA of Sweden (www.sca.com) offer a complete range of FSC certified paper to its consumers.

Certification is being demanded more and more on the market place and producers are responding by ensuring sufficient supply. According to Domtar Inc., demand for FSC paper is caused by the following factors:

- Corporate Social Responsibility (CSR) is a hot topic. The Dow Jones Sustainability Index identifies top performing CSR companies, and Merrill Lynch has announced a \$200 million fund for good CSR investments.
- There has been a shift in buy decisions, where the top management level of Corporations have become more involved
- Industry leaders understand CSR and SFM (Sustainable Forest Management)
- Paper may be a very small part of corporate purchasing, but it is a relatively easy product with which to demonstrate green principles

- 50% of consumers claim to have avoided purchasing products with a poor environmental image
- Public opinion (inc. consumers, NGO's) is closely following corporate operations, and the days of "buying oneself out of trouble" with charitable donations are gone

It is clear that Russian producers, as players on the world market, understand this shift in attitude. This recognition has resulted in the dramatic rise of forest certification within the last two years in the Russian Federation, driven mainly by the large pulp and paper producers. (See also 6.1.7)

3.3.2 Certification as an Export Advantage

CSR issues are becoming increasingly important in the international trade of forest products. Certified forest products will enjoy a special status in the main importing regions during the coming years, thus giving a competitive advantage to producers capable of meeting this demand. A good example of a market study for certified forest products is the recent FSC market study (www.fsc.org) that has identified the following key issues:

- The market for FSC labeled products is in the region of \$5 billion USD
- In some sectors, FSC certified production dominates (e.g. it is hard to find non-certified garden furniture in DIY stores in Europe)
- The costs of FSC certified production is generally comparable with that of non-certified production, with the exception of some market niches: FSC certified printing (coated) paper, some furniture (especially hardwood)
- There is a rapid development in the demand for forest certification in Japan and, to some extent, China

Demand for certified products is increasing much faster than the general demand for forest products. Many top companies are now specifying certified forest products as the main environmental benchmark for purchasing decisions.

Most large companies have now created positions for "sustainability officers", and Marks and Spencer (M&S) is no exception. Employing 60,000 people, M&S operates 350 stores in the UK and 300 elsewhere. M&S is a household name in the UK. It sells own branded goods and food (food accounting for 50% of sales) and positions itself at the quality end of the market.

M&S received a shock with the publication in 2003 of a Greenpeace UK league table of suppliers of garden furniture. M&S was close to the bottom. This event initiated the development and implementation of a robust CSR strategy. In 2005, M&S were the most improved retailer on the same garden furniture rating.

(<http://www.greenpeace.org.uk/Products/GFG/leaguetable.html>)

In terms of wood sourcing, M&S recognizes the FSC as the only forest certification scheme offering a robust and independent verification of wood sourcing.

(http://www2.marksandspencer.com/thecompany/ourcommitmenttosociety/csr_reports/solid_wood_sourcing.pdf).

M&S has a policy of supporting the best, (e.g. credibly certified forest products), and avoiding the worst (Red list species, certain countries, illegal logging). With NGO action currently focused upon illegal logging, and to a large extent this includes illegal logging in Russia, it is absolutely vital that Russian sourced fiber does not appear on the exclusion list of major corporations.

Axel Springer Verlag AG is one of Germany's largest publishing houses and is a household name in Germany. Axel Springer is a major paper user and sources a small part directly from Russia, with a significant proportion of its procurement coming from Scandinavia. The Scandinavian sourced paper includes up to 15% Russian sourced fiber.

Axel Springer has a good CSR record. The company has listened to the concerns of its customers regarding wood sourced in Russia and has been active in researching its Russian sourcing policy, and in developing methods for improving transparency, environmental performance and CSR throughout the supply chain, with special focus on Russia. See also 5.4.1 and <http://www.axelspringer.de/englisch/home-e.htm>

Companies such as Axel Springer, Marks & Spenser, Home Depot, Kingfisher, Obi and most DIY stores throughout Europe have a purchasing preference for certified products. Furthermore, they will exclude suppliers and supplies if they perceive any form of corporate risk.

3.3.3 Public Procurement

The Royal Institute for International Affairs www.riia.co.uk, now known as Chatham House www.chathamhouse.org.uk, noted that public procurement of timber is estimated to account for 15-20% of purchases in most developed countries, and this equates to a very significant purchasing power.

Five EU member states – Denmark, France, Germany, The Netherlands and the UK – all currently have, or are moving towards, systems which will require proof of legal origin for central government purchasing of timber and wood products. Systems are already in place in the UK and Denmark, and are under development in the other three.

It is perhaps no mistake that the British Government already has a system in place. There was a very public action against construction site boarding (Greenpeace - Forest Crime Scene) at the new offices of the Department of Trade And Industry a few years ago.

Increasing interest is being shown in countries outside the EU in developing similar policies. Almost every country already has a framework for 'green' procurement, promoting the use of recycled paper, for example, or sustainable timber in building projects. It should be possible to adapt these frameworks to source legal timber and wood products.

A key issue - in procurement, as elsewhere - is how legal (and sustainable) timber can be identified. Certification schemes such as FSC can provide proof of legality, but WTO and EU procurement rules mean that non-certified products must also be allowed access, as long as they can demonstrate legality. The UK has established a Central Point of Expertise

on Timber (CPET) to both assess existing certification schemes and to judge alternative proofs of legality accompanying uncertified products.

It is clear that public sector procurement aims to source legal timber, and that this pressure will increase with FLEG and FLEG(T) processes. It is recognized that certification can provide one way for the public sector to secure itself against the purchase of illegally-logged products.

3.3.4 Trade Policy Issues

There are generally few trade barriers in the global market place due to the fact that many importing companies do not have sufficient domestic supply. In fact the converse of protectionism operates, with the lack of trade barriers allowing an explosion in the global trade of illegally sourced wood (WWF, www.illegal-logging.com).

Most countries levy no import tariffs on its forest products exports. Indeed the very opposite can occur, as in the case of Russia, with a tax on round wood exports levied to try and stimulate domestic processing.

However, policy interest is now turning to enabling the legal sourcing of wood, such as the EU response to illegal wood trade through FLEG. In addition, some government procurement departments (e.g. UK, Germany, Denmark) have specific rules for the purchase of timber and other forest products. (see 3.2.5)

3.4 Credibility of Forest Certification Systems

In order to be widely accepted by markets, governments and non-government organizations, certification should be credible. Credibility is a very important feature of forest certification ensuring, among other factors, success in various markets. Nowadays more than 20 different systems of forest certification exist in the World, however only 4 systems (FSC, PEFC, SFI, CSA) are considered to have achieved credibility.

The basic principles for forest certification require a comprehensive definition of good forest management in the spirit of sustainable development as expressed in the Conventions and Agreements of the UNCED conference in Rio 1992, and the Conferences for the Protection of Forests in Europe in Helsinki 1993 and in Lisbon 1998. Any forest certification system should therefore provide an equal consideration of the environmental, social and economic aspects of forest management. Discussions are on-going concerning the credibility of forest certification. Different organizations are engaged in debate, including WBCSD, CEPI (Confederation of European Paper Industries), WWF-World Bank Alliance, Global Forest and Trade Network (GFTN) and European NGO's. The definition of forest certification given by European NGO's is given in Box 1 as an example:

Box 1. Credible certification system (NGO's statement: WWF, Greenpeace, FERN, Robin Wood et al)

Any credible forest certification system has to fulfil the following basic principles and minimum requirements:

- Be embedded into a global framework that provides internationally recognized, applicable and equitable standards. The wood market is characterised by an increased liberalisation and globalisation. Therefore, any forest certification system needs to be embedded into a global framework, allow international implementation and comparability, and be equitable to developing countries without excluding institutional and political adaptation to local conditions.
- Ensure the participation of a broad range of stakeholders When adopting 'Agenda 21', the international Community has agreed that sustainable economic and human development can only be achieved with the involvement of all stakeholders. Decision-making and standard setting processes need to allow a fair representation of all interested parties and exclude the domination of one or few parties with vested interests over the other stakeholders.
- Be voluntary
The implementation of any forest certification scheme and the use of a product label must - together with the political process - be voluntary for all.
- Ensure independent third party assessment. The independent control and assessment of a third party certification body is part of the above-mentioned general definition of certification.
- Provide objective and measurable standards
Any claim for complying with a specific ecological, social and economic level of forest management has to be assessed according to objective and measurable performance standards.
- Be fully transparent to the parties involved and the public
The basic principles, procedures, standards, criteria and indicators, as well as the respective political, scientific and technical processes upon which they are based must be made publicly available. The full transparency and comprehensibility of all parts of a certification system is a central element for its credibility.
- Ensure certification at the management unit level but remain cost-effective and make best efforts to be equitable to small forest owners
Being a voluntary decision, forest certification has to be done at the forest management unit level. Any certification system should be flexible and reflect the specific local ownership structures. In Europe this is characterised by a large number of small forest owners. Specific performance elements can be achieved at the landscape level and tasks can be transferred to broader management units, but the inclusion of forest management unit standards, individual commitment and sample assessment at the management unit level is a pre-condition for credibility.
- Ensure active commitment of the managers/owners of the certified unit
In order to ensure long term compliance with the requirements of the certification system, the full and active commitment of the individual owner or manager of the certified forest unit must be required.
- Be acceptable to a large range of involved parties and credible to consumers, social and conservation NGOs
No certification system that assesses environmental and social performance will be successful in the market without the support and recognition of consumers, social and conservation organizations.

- **Be market driven**
As a voluntary tool, Forest Certification must remain market driven. Governments should follow the two IPF recommendations "to play a clear role in encouraging transparency, non-discrimination and open access to voluntary certification systems" as well as "to make a clear distinction between a governments role as regulator, promoter and forest owner where certification is concerned". Governments have a clear role as legislators, facilitators and information providers. They should primarily facilitate further dialogue between stakeholders and play an active role in fighting against unsubstantiated claims of sustainability of wood products. However, governments should not to act as standard setting or certification bodies.

Certification is a process by which a third (independent) party gives written assurance that a product, process or service conforms to specified requirements (source: ISO definition of certification (ISO/IEC Guide 2:1991)). Forest certification is intended to provide an incentive for improved forest management and is considered as a 'soft' economic instrument. It is neither a panacea nor a replacement for regulations and legislation, but can complement these tools.

To fulfill its role as an incentive and to provide a credible product label, certification has to have two components:

1. Forest auditing: inspection of forest management on the ground against specified standards;
2. Product certification: chain-of-custody monitoring of a timber product from the forest to the consumer.

As such, a forest certificate has to attest that the management reaches the specified requirements and has to document the location of the forest from which the timber originates. Forest certification delivers an assurance that the timber is derived from transparent business, working to internationally accepted environmental, financial and social standards. As such it has become to be considered as the benchmark for CSR in the forest industry. The FSC principles of Forest Management are included in appendix 1.

4. Status of the Russian Forest Sector

With Value Chain input from Peter Yee

4.1 Global Market Trends and Russia

Global trends in forest products consumption are presented in Diagram 1 below. With the exception of sawn wood, the trend displays steady growth. Wood-based panels and pulp and paper have all enjoyed consistent growth in consumption. Consumption of plywood has increased by 66% from 1990-2002, currently estimated at 84 million m³/yr Consumption of other wood-based panels (such as fiber-board and particleboard) increased by 55% from 1990 - 2002 (currently 113 mill. m³). Sawn wood consumption has

slipped from 508 million m³ in 1990 to 388 million m³ in 2002. The collapse of the Soviet Union sawn wood sector was one of the key reasons behind this 23.5% fall, resulting in substitution of wood by other products. In the latter half of the 1990s, the increased production of engineered wood products (EWP) has also reduced the consumption of raw sawn wood (5).

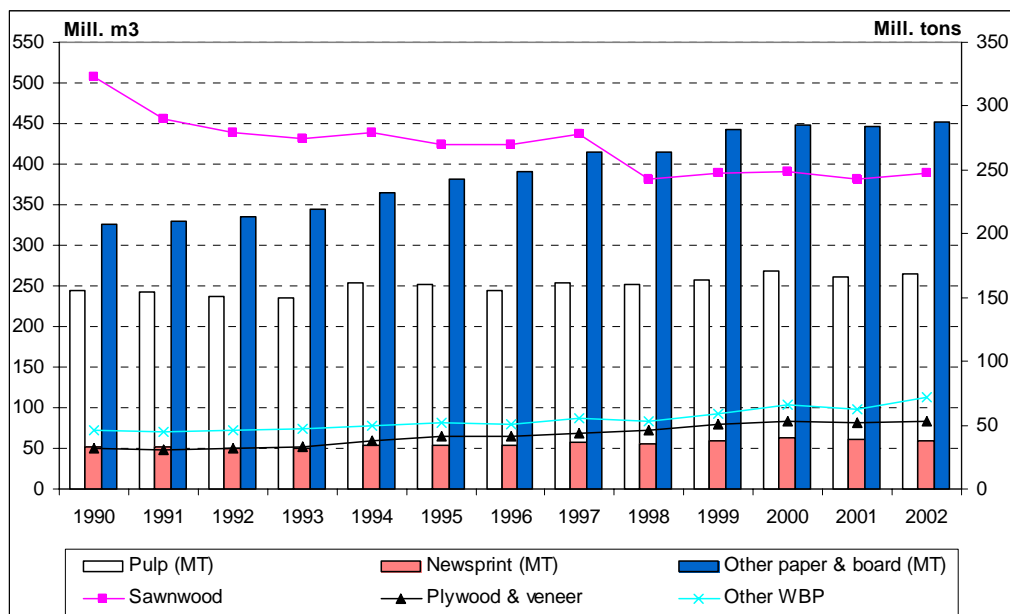
In pulp and paper, the consumption growth rates have been much slower. Wood pulp consumption reached 168 million tons in 2002, which was 8% higher than in 1990. In newsprint, consumption has been fairly static in the recent years, exhibiting a 13% growth during the period 1990-2002. Other paper and paper board products recorded a 38% growth in consumption during this period.

Forest products flow from regions with abundant forest resources (Canada, Scandinavia, Pacific and Russia) into areas with high consumption relative to available forest resources (US, Western Europe, Japan, China). To compete effectively in these markets, product quality standards and logistical performance are key factors. The major producing nations are generally, but not always, located close to their markets, have good infrastructure, skilled labor and state of the art technology. Russia is positioned well to supply Western Europe and China, but it lacks adequate transport infrastructure and sufficient added value technologies. Thus, despite the low cost of resources (such as stumpage) and low cost of skilled labor, Russia is consigned to be a supplier of low grade and low value raw materials.

Russian forest products serve no niche markets and have no preferred access to key global markets.

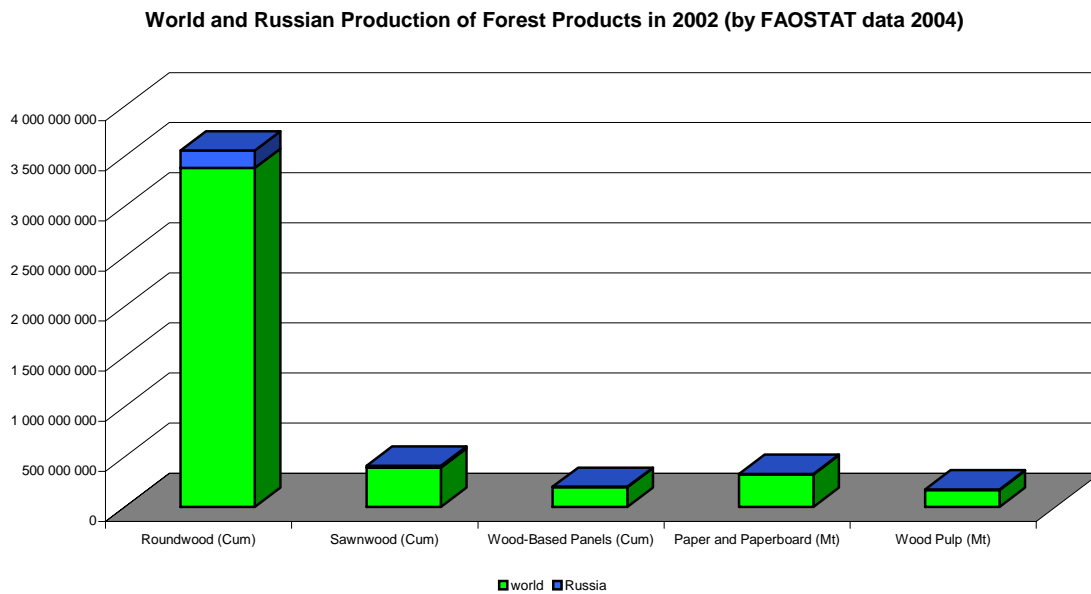
Diagram 1. World trend in the demand of forest products since 1990

SFPP-QCBS-5. Russian Federation Sustainable forestry pilot project. Forest certification and sustainable forest management. First interim report. Consortium Indufor – TsNIIME-NIPILesprom. M. Simula, J. Lounasvuori, A. Ptichnikov et al. 2005



Russia ranks second in round wood export (after Canada) with 27% by value, 6th in saw log export (6% by value), 8th by pulp export (3%) – refer to Diagram 2.

Diagram 2. World and Russian production of forest products



In 2004, the turnover of the Russian forest sector was around \$10 billion USD. Export turnover was \$6.5 billion USD, and domestic consumption was \$3.5 billion USD (Goskomstat, 2005). Russia ranks 9th in the overall value of exports of forest products, after Canada, US, Finland, Germany, Sweden, France, Indonesia and Austria. Russia's share of the value of world forest products production is rather modest, between 2-5% according to FAO data, despite holding significant forest resources (Table 2).

Table 2. Russia share of global forest resources and products (by FAOSTAT)

| Russian Federation | % of global |
|--------------------------|-------------|
| Area of forests | 22% |
| Growing stock of forests | 23% |
| Harvesting volume | 5% |
| Wood based panels | 3% |
| Pulp | 4% |
| Paper and carton | 2% |

4.2 Global Ecological Importance of Russian Forests

The Russian forest has a global ecological value and represents one of three mega-massifs of World forests, including Boreal forests, Amazonian forests, and the Congo basin. Some key global ecological features of Russian forests may be summarized as:

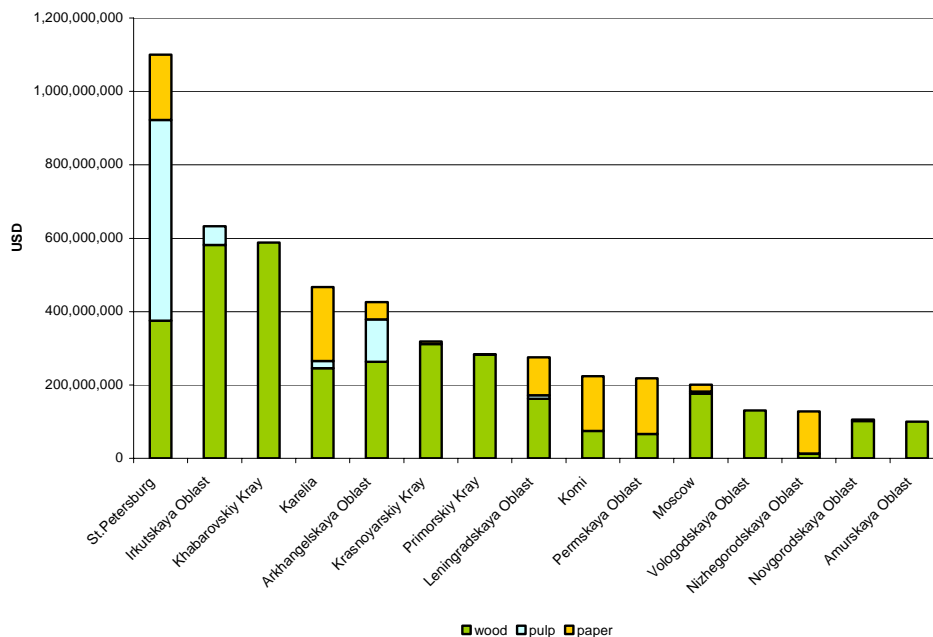
- They total 22% of global forest cover, and 50% of coniferous forest cover,
- They hold 25% of intact forest landscapes,
- They maintain the highest diversity of boreal species in the World,
- They serve as a sink for 15% of the CO² accumulated by forests globally (7).

Forests always provide a diversity of protective values and benefits for people. The main functions of forests in Russia are soil and water protection within the landscape, biodiversity and species protection, and permafrost protection.

4.3 Structure of the Russian Forestry Value Chain

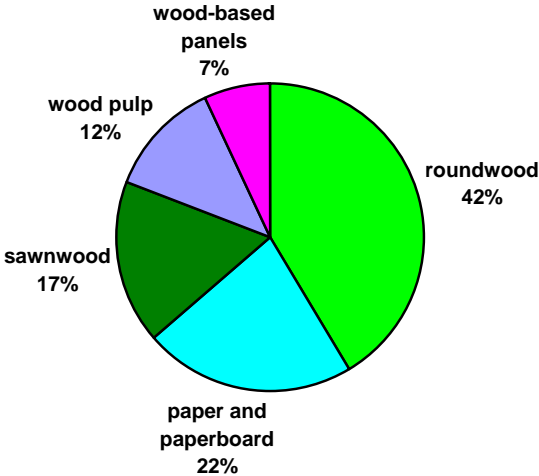
The Russian Federation consists of 89 regions. In around 30 of these 89 regions, the forest sector occupies either first or second place in economic importance in terms of revenues, taxes and employment. The leading regions within forest sector development are shown in Diagram 3. Regions with significant strategic economic interest in the forest sector include Irkutsk, Khabarovsk, Karelia, Archangelsk, Primorsky Krai, Komi Republic, Vologodsk and Kirov oblasts.

Diagram 3. Production values of leading Russian regions exporting forest products



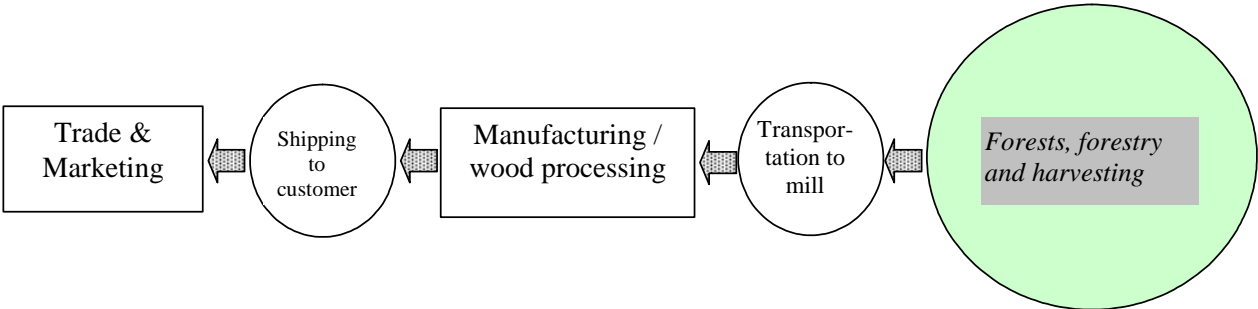
A range of products is produced in these regions but, overall, national production is concentrated at the low end of the production value chain. As shown in Diagram 4, round wood still dominates the value of forest products, driven in large part by demands from China, Japan, Finland and Sweden. This is followed by higher value products, such as wood based panels, pulp and paper, and sawn wood, which collectively account for some 58% of revenues.

Diagram 4. Structure of the Russian forest industry (by product value).
Source: Goskomstat, 2004



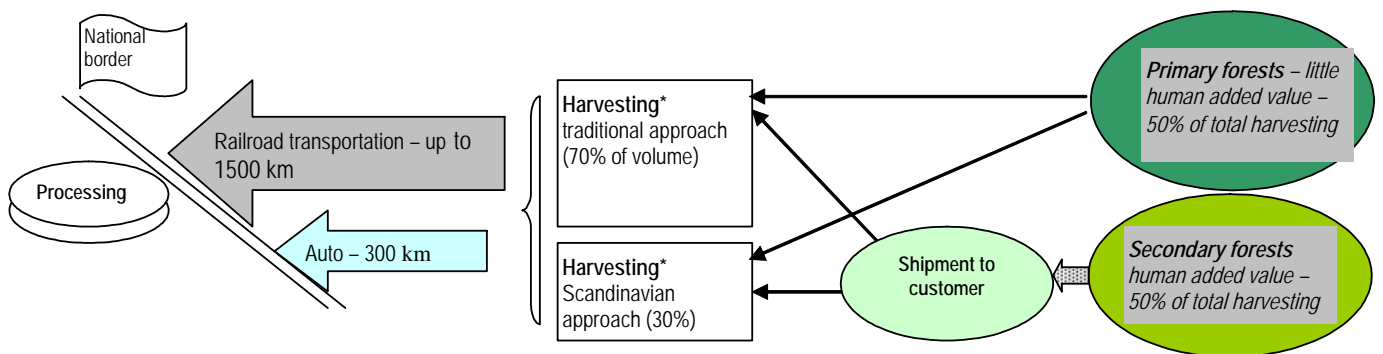
The product transformation in the Russian forest sector can be highlighted by a value chain map that shows the form of value-adding that takes place during the life cycle. This life cycle stretches from the raw material to a final product via a network of activities that add (or undermine) value at each stage of processing until the final product is consumed by the end-user. The general character of this map is shown below (Diagram 5).

Diagram 5. General value-chain map in the Russian forest sector



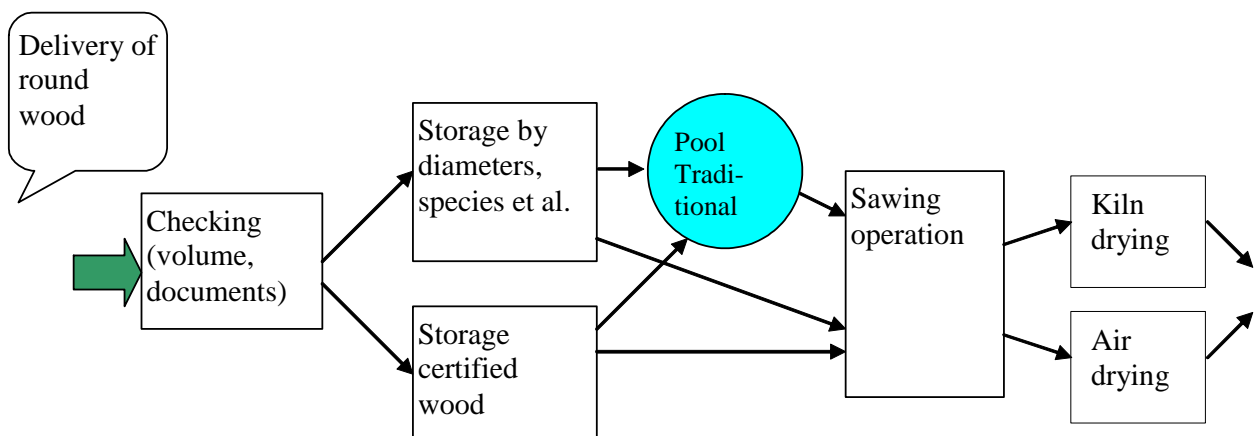
The above map may be detailed in a more graphical manner by breaking it into two distinct components; the first in terms of silviculture to round wood delivery, and the second representing round wood to processed wood products. For the first component, the wood may be delivered to any client, however in the case elaborated below (Diagram 6) it is assumed that the wood is exported. This part of the chain is the most simple and consists of silviculture (with little value added in case of primary forests), harvesting and transportation to the destination.

Diagram 6. Value-chain map in Russian round wood harvesting & trade sector



As round wood may be processed into different forms of manufactured forest products with varying degrees of complexity, the case of sawn logs is chosen to illustrate the second part of the chain. As shown below (Diagram 7), this part of the chain is more complex than the one before because the process involves a larger number of value adding activities. (Other manufactured forest products will exhibit different value chain features but the complexity will be influenced by the degree of value adding activities, such as pulp and paper which is more complicated.).

Diagram 7. Value-chain map in Russian sawmill & trade sector



4.4 Ownership, Concentration and Market Power in the Forestry Value Chain

With very few exceptions, the forest industry is privately owned. One of the more interesting exceptions can be found in harvesting enterprises owned by prison camps. Large industrial processing centers are concentrated in a few regions, and belong to a only few industrial holdings. Medium scale and small processing industrial enterprises are spread over many regions where harvesting is on-going.

There is a domination of large and medium size enterprises: around 20 largest forest holdings produce circa 40% of forest products by value. The 50 largest companies are responsible for 75% of forest products by value.

The largest holdings are vertically integrated; these include silviculture (a recent development), harvesting, transportation, processing (saw logs, pulp and paper products), marketing and sales. Examples of such holdings are: Ilim Pulp enterprise, Archangelsk PPM/Titan group, Mondi business paper Komi, Solikamskumprom.

Some holdings do not have harvesting and sawmill operations: e.g. Volga PPM. Other large holdings concentrate on sawmill operations (LDK-1, Novoyeniseisk, Solombala sawmill/Lesozavod n3). A Russian Far East phenomenon is that traders consolidate harvesting companies into various forms of holding companies (e.g. Flora and Maltat!). Compared to other countries, the degree of horizontal integration is poorly developed. E.g. in Scandinavian countries horizontal integration is ensured via different unions: Metsaliito, Finland (now transformed into a commercial company) and Sodra in Sweden. Such horizontal structures exist in only a few places in Russia, e.g. Karellesprom in Karelia, which is, 50% owned by the Karelian government.

Rent accrual behavior corresponds to early capitalism, although murder and physical violence is not normal anymore, aggressive predatory business behavior is widespread. There are some exceptions, especially in the regions, where the situation is controlled by large holdings such as Archangelsk and Komi. There are a number of investors specialized in non-friendly acquisition of businesses: the example of the former corporate war between Basic Element (owned by "oligarch" Mr Deripaska) and Ilim Pulp is well known. Some companies, especially in the Far East, originated or have ties with the criminal world.

Russia does have an image problem in the market when it comes to sustainable forest management and environmental performance. This is recognized by the largest Russian forest products companies, who are all supplying western European markets. Ilim Pulp Enterprises, Mondi Business Paper, Archangelsk PM, JSC Volga, JSC Solikamsk are all in the process of certifying their suppliers.

However, to-date, Russian producers cannot offer certified pulp and paper products to the market.

The main CSR issue in the global forest market is the impact forestry and harvesting have over forest ecosystems and local livelihoods.

The specific situation existing in Russia is that European, North-American, and to some extent, the Japanese markets are becoming more and more sensitive to the environment and social quality of forest products. As a result of this, Russian forest companies are more and more moving toward CSR via a market driven mechanism – forest certification. During 2005 the area of certified forests in Russia increased four times – from 2 Million ha to 8 Million ha: representing almost 10% of all forest leasing.

The most attractive markets (based upon price level) are in Europe and Japan. European markets are very “green”, providing market opportunities for certified companies. The Japanese market is difficult for Russian processed forest products to penetrate due to specific technical requirements. The Chinese market is challenging, and is characterized by unattractive prices and competition from illegal logging.

Russian Pulp and Paper companies have low access to the most rewarding European and Japanese markets, and so they consider CSR and eco-labeled production as a tool for expanding into new markets. Finland is the main importer of Russian round wood from the European Russia. Finnish companies are not active in demanding certified timber, which decreases the pace of certification/CSR in the round wood sector. Round wood export to China is associated with the highest level of illegality: Chinese traders often organize semi-criminal networks to buy doubtful wood (on a cash basis).

4.5 Spatial Features of the Value Chain

The forest supply chain in Russia is extremely fragmented geographically, being characterized by long transportation distances. Low value adding is also a major factor, with 40% of Russian export sales sold as round wood. In addition, at every segment in the chain, products are exported to other markets where value is added, for example:

- Logs are sold to domestic and foreign processing plants
- Pulp is sold to domestic and foreign paper mills
- Wet sawn timber can be domestically dried or can be sold abroad for further processing
- Dried wood is sold to domestic and foreign joinery shops.

There are three main silviculture/forest industry centers located in Russia, in North-West European Russia (Leningrad region: Karelia, Archangelsk, Komi, Kirov, Perm, Vologda et al), Southern Siberia (Irkutsk Oblast, Krasnoyarsk Kray), and the Russian Far East (Khabarovsk, Primorsky Krays). These three regions provide 67% of all Russian forest products, and 75% of export products.

Many regions (Leningrad, Karelia, Khabarovsk, Primorsky et al) mainly produce and export round wood to neighboring countries: Finland, China, and Japan. The situation in these areas is characterized by medium/low intensive agriculture, logging of primary forests (Khabarovsk) and secondary forests (other regions), transportation to borders by truck

(Leningrad, Karelia, Primorsky) or by train and ships (Khabarovsk). Typical distances to consumers (wood processors) range from 100-200 km in the case of Finland, and 500-1000 km in the case of China and Japan. Wood is mainly used for producing pulp and paper products (Finland, Japan), and for saw logs (China, Japan). These countries developed a wood processing infrastructure along the Russian border, thus encouraging export of round wood.

The main wood processing centers within Russia are: Archangelsk, Komi, Krasnoyarsk, Irkutsk, and to some extent Karelia. These centers are characterized by the domination of large processing units (sawmills, pulp and paper mills). These mills are located in industrial towns and cities. The typical transportation distance from harvesting sites is 200-250 km, mainly by trucks and, to some extent, railroad and rivers (ships, rafts). The range of products include saw logs, pulp, paper, carton, and various wooden board products (plywood, MDF, OSB, DVP). The main markets are Europe (saw logs, wooden boards), worldwide (pulp & paper), USA (plywood). The transportation distances to market can vary from 1000 km up to 5000 km.

Domestic consumption is approximately 30% of the total Russian production (around \$2.5 billion USD). The main centers of domestic consumption are the major cities, especially so in European Russia. The distribution distances from certain regions in NW Russia to domestic markets can be 300-400 km, with transportation by truck or by rail.

4.6 Logistical Challenges

Supply chain Logistics are challenging due to the long transportation distances, poor infrastructure, low quality of transport services and onerous cross-border procedures (Customs, etc.).

The main logistical challenges from forest to mill are:

- Absence of, or very poor network and quality of roads. The Government does not support road maintenance, thus the forest companies are solely responsible for road maintenance
- Old and inefficient transportation equipment (trucks) and transportation practices (i.e. logs are often poorly loaded, and may be transported in missed assortments) predominate

The main logistical challenges from mill to border are:

- Difficulties in obtaining rail transport facilities (e.g. obtaining rail wagons)
- Time consuming customs clearance
- Companies normally act through customs brokers

4.7 Sourcing of Factor Inputs for Value Addition in the Chain

There is a problem with wood procurement in North-Western Russia. Many sawmills have a significant problem in sourcing quality coniferous sawlogs. The reasons for this lie in low intensity silvicultural practices and the growth of low quality, and low value, broadleaf species (Aspen and Birch) instead of coniferous species (spruce and fir). This results in Russian forests in the North West producing two to three times less Pine and Spruce sawlog quality material than in similar Scandinavian forest. These factors contribute to a deficit in specific product assortments, such as coniferous sawn wood. This problem is still not acute in Siberia, but the situation is likely to change for the worse in a 3-5 years time period.

The value of procured assortments in Archangelsk is: sawn wood (around 30 USD/m³), pulp wood (around 15 USD/m³) at the mill, not including transportation. These prices are lower than the normal market prices.

4.8 Value Adding Activities in the Chain

Silviculture & Harvesting

High conservation value forests, including protected areas, are not always preserved as they should be, and the rights of indigenous people are not always respected. Salaries and worker safety do not always reach the level required by legislation. In general, value adding activities in harvesting are characterized by very low levels of investment into silviculture, environmental protection & conservation, workers remuneration and safety.

In addition, wood is often not correctly sorted and sent to the highest value market. For example saw log grade material is often pulped in domestic mills. Old, outdated and inefficient harvesting systems are often the cause of this product grading inefficiency..

Wood Processing (Sawmills)

Current value adding activities in Russia are characterized by very limited investment in equipment, workers salaries and safety. This often results in low added value e.g. wet rough sawn timber being sold to Lithuania for drying and precision sawing, where the bulk of the value added is achieved.

Pulp and Paper

There are some major global forest industry players based solely in Russia (e.g. Ilim, Archangelsk), These companies produce in the lower end of the value added spectrum – pulp, packaging and newsprint. There is not a single coated paper production facility in Russia.

4.9 Government Involvement in the Chain

Forests are Federal property and are managed by the Federal Forest Agency and its regional and local branches (called leskhozses). The level of management has always been low – an inheritance from Soviet times, where the planned economy required a large volume of wood at “any price”. A reform of forest governance and forest management is currently on-going.

Most Forest companies view Government involvement in the forest sector as a significant barrier. There are numerous problems associated with poor governance and management.

These include:

- Poor planning of forest resources;
- Very centralized and inflexible forest management system;
- Harvesting rules are not economically based (Soviet heritage);
- Poor quality of silviculture, including reforestation and thinning;
- Poor allocation of forest resources to harvesting companies (illegal logging is mainly associated with violations in this process);
- Illegal commercial cutting in the form of so-called thinning (40% of total harvesting in Russia in the year 2004!);
- Poor control over forest resources, forest fires and pests.

For responsible companies, the cost of doing business is significantly higher within the existing Government forest management system. It is difficult to estimate the true administrative costs, however this projects estimates suggest a figure of a few USD/m³, which is more significant than other factors, including stumping.

4.10 On-Going Structural Changes

The Russian forest sector is currently undergoing deep structural change. During the 1990's the Russian forest industry was privatized, while state forest governance has remained almost unchanged since socialist times. The Government decided to launch a forest governance reform to keep pace with changing market conditions. As a result, the draft Forest Code was prepared, which will most likely be adopted by the end of 2005.

The strategic goal of the new Forest Code is to transfer many of the responsibilities of forest management from the state to leaseholder companies, while state organizations will be responsible for the leasing processes, organization and control. Personnel levels in the state forest service will be significantly reduced. This significantly increases forest companies responsibilities in terms of forest planning and management.
(<http://www.greenpeace.org/raw/content/russia/ru/press/reports/32626.doc>)

Existing Russian forest legislation and norms, especially considering the way in which they are implemented, do not fully correspond to international requirements (e.g. Helsinki and Montreal criteria and indicators for boreal forests.) An analysis of non-compliance is

provided by one of the authors of this report (A. Ptichnikov) with the participation of other experts (Appendix 2). The major areas of non-compliance identified are:

- The commercial value and productivity of forests is not regulated
- Multipurpose forestry (e.g. non-timber product business) is not ensured
- Forest planning is not market oriented
- Intact and other high conservation value forests (HCVF) are not properly protected
- Local and indigenous peoples, and society as a whole, do not generally have an opportunity to participate in forest planning and control.

The relative importance of the Russian forest sector at the Federal level is modest compared to the oil and gas sector, which provides 60-65% of all state revenues, and employs several million people.

There are few forest lobbyists lobbying the Federal government or Parliament, and forest companies (with 2-3 exceptions) are not active in politics. The Federal Forestry Agency is the single body at the Federal level fully devoted to the forest sector. The Ministry of Economic Development (MEDT) is another important body.

5. CSR Practices in the Russian Forest Sector

It is widely accepted that, to reach 'best practice', management should:

- be sector-wide;
- be transparent;
- have shared governance;
- reduce inefficiencies;
- measure productivity gains;
- capture market-based incentives.

5.1 Forest Certification is the Primary CSR Initiative in Russia

The Russian forest sector, compared to other branches of the Russian national economy, has a relatively high interest in Corporate Social Responsibility (CSR). This interest is mainly driven by market mechanisms that have induced initiatives such as voluntary forest certification, public procurement and responsible investment. As a result, **8 out of the 10** largest Russian forest product companies have already started and partially implemented ambitious CSR programs. These programs conform to FSC and ISO 14001 standards. In addition, there are other mechanisms of CSR in the Russian forest sector, including eco-ratings and wood tracing systems.

There are 6,3 Million ha of certified forest in Russia, with 20 companies holding certificates, including nearly all the large Russian forest product companies such as Ilim Pulp, Archangelsk PPM/Titan group, Neusiedler Syktyvkar and Volga. The certified

forests are located in North-West Russia, Southern Siberia and in the Russian Far East. The certified companies mainly belong to the wood-processing sector. The main processors are pulp and paper mills and saw mill operations. The certified companies include Russia's largest forest product companies, such as Ilim Pulp, Archangelsk PPM/Titan group, Mondi Business Paper Syktyvkar and JSC Volga. The second large group of certified companies are sawmills: Onega LDK, Solombala LDK, Novoyeniseisk KLPH, Lesosibirsk LDK and Madok. There on-going certifications within plywood, veneer, board and furniture sectors. (Source: FSC Russia).

There are around 7-8 Million ha currently the process of obtaining certification, resulting in an FSC coverage of 15 Million Ha of Russian forests in the next 2-3 years - representing 12% of all commercial forests in Russia. From a mid-term perspective, certification can be seen as one of the most powerful factors driving the Russian forest sector towards responsible forest management.

The development of forest certification in Russia is driven by the following players:

- 1) Non-governmental organizations, international retailers, investors – Forest Stewardship Council (FSC) national and regional schemes (since 1996).
- 2) Federal Forest Service – Mandatory forest certification (since 1997, failed in 2000 as a result of new Certification law) and later National Forest Certification scheme (NFCC) (since 2003)
- 3) Union of timber producers and manufactures, Finnish buyers of round wood – National voluntary forest certification system (NVFCC) (since 2002).

All certification schemes offer similar auditing mechanisms and the award of certificate, including the proposed Russian National Certification Scheme (headed by Dr. Isaev). A comparison based upon field inspection has been carried out between the proposed new Russian system and FSC principles, with the results showing close compliance with these principles

The last two schemes are not yet operational in Russia because they are not yet accredited through the PEFC program. The FSC scheme is currently the only one operational. For the purposes of our study we made extensive use of statistics and public certification reports available from the sites of FSC accredited certification bodies (www.fsc.org)

The market analysis performed by a World Bank pilot project (<http://www.lescertproekt.ru/documents.html>), the UNECE/FAO Forest Products Annual Market Analysis, 2002-2004 (<http://www.unece.org/trade/timber/docs/certification/2003-cert.pdf>) and specific marketing analysis of Russian forest product companies (Ilim Pulp, presentation in workshop "Development of forest certification in Karelia, Petrozavodsk, 19 October 2005) illustrate that, within the traditional market place for Russian forest products, the FSC standard dominates (i.e. in 70-80% of markets, FSC prevails). 13 out of the top 20 largest forest companies state that they have already selected, or plan to select, FSC certification. One company plans to select the PEFC scheme alone, while 5-6 others will certify according to both FSC and PEFC.

The Russian government supports the development of voluntary forest certification. Some agencies are more in favor of the market-oriented system (MEDT – FSC), while others lend their support to the National Forest Certification Scheme (Federal Forest Service).

Certification has already changed the forest sector of Russia. Some Russian officials (e.g. Mr A. Siluyanov, Archangelsk Forest Agency) believe that the management of certified forests is carried out to a higher standard than in non-certified forests.

The certified companies are more transparent and open. They are active in the development of modern forest policy and legislation, they actively invest in new equipment and techniques, and they are pro-actively improving the management of their forests.

Certified companies are now active in the process of reducing the inefficiencies within the forest sector, including existing legislation and other barriers.

The Corporate sector is interested in monitoring production gains and to introduce improved management and control systems. Companies wish to capture market based incentives via the implementation of Chain-of-custody and improved marketing of CSR products in the most valuable markets.

Such companies represent the future of the Russian forest sector, and illustrate the statement made in 3.1 that *CSR is no longer merely fashionable but an essential component in delivering improved performance.*

5.1.1 Russia's Position on the International Market of Forest CSR Products

In terms of market perception, Russia has an image problem when it comes to sustainable forest management and environmental performance. This is recognized by the largest Russian forest products companies, who all supply western European markets. Ilim Pulp Enterprises, Mondi Business Paper Syktyvkar, Archangelsk PM, JSC Volga, JSC Solikamsk are all in the process of certifying their suppliers.

There are very few chain-of-custody certificates (CoC) in Russia. Only 20 Russian companies have CoC certificates, while in Germany there are around 400 CoC certificates, and around 250 CoC certificates in Switzerland. This demonstrates that Russian certified forest products have not yet reached European markets. At the moment, many companies in Russia are active in CoC certification and are seeking to market their certified forests. We expect Russian certified products, and especially wooden board and paper, to penetrate European markets during 2006.

Russian forest products consumers, however, are not sitting back, and waiting for results - they are being proactive. Axel Springer Verlag, (a major European Publishing House: www.axelspringer.de) source significant fiber from Russia. As stated above, they are a CSR leader in Europe and are currently implementing their own Assured Wood Traceability scheme to cover all their fiber supplies, including direct and indirect fiber sourced from Russia. They are also active with other partners including Stora Enso on a project: 'From

Russia with Transparency: Implementing corporate sustainability values in the supply chain of wood and paper'

(Stora Enso Oy Press Release 26 September 2005 at 13:00 GMT)

In a joint pilot project, Stora Enso and publishers Axel Springer, Random House Group UK and Time Inc. have combined forces to improve the transparency of the wood supply chain – the Interim Report has been reviewed by Transparency International, the leading international NGO devoted to combating corruption.

5.1.2 Examples of Improved Market Access from Russia

In the past many Soviet (Russian) companies have traditionally supplied markets in the West. For over 50 years many companies from Archangelsk and Siberia supplied their forest products (sawn boards) to the UK. Due to certification requirements from UK retailers, Russian companies lost part of the UK market at the end of the 1990's. Supplies of certified production from Latvia and Estonia replaced the Russian share. Some experts estimate that Russia lost around 30-40% of the lucrative UK market, and reoriented instead on the lower value African market (e.g. Egypt) with less attractive conditions. The previous governor of the Archangelsk region, Mr A. Efremov, declared that the Archangelsk region lost up to 100 Million USD due to the replacement of an A-class market with a lower value market.

A similar story has unfolded in the Russian Pulp and Paper sector. One example is Syktyvkar pulp and paper mill (now Mondi Business Paper Syktyvkar) which lost almost all of its European market, and has now reoriented itself towards Asian and domestic markets. The goal to keep, or to restore, previous A-class markets has powered the development of certification in the Russian forest sector. Certification has not been driven by the expectation of improved prices for certified forest products, but more by the desire for long term access to high value markets.

Some Russian companies have reported price advantages, especially in the paper sector, wooden board sector and in the furniture sector. The market premiums achieved in contracts for certified product varies, according to information of obtained from a sub-set of Russian companies, from 3 to 11% above the regular price.

The Dammers Company, which has a sawmill and joinery business in the Archangelsk region with a fully certified FSC wood supply, reported a 200% sales increase in the German market during 2004, believed to be a direct result of it's supply certification.

During 2002 and 2003, German DIY stores were attacked by NGO's because eco-labeled wood, sold as sustainable timber from Germany, actually came from Archangelsk in Russia, some from intact primary forests. In addition, NGO action against a German timber importer who traded in wood from HCV forests was widely publicized.

Since then, Hornbach AG (www.hornbach.de) has become proactive in its CSR policy.

- They visited Archangelsk in 2004 to explain to wood producers their new purchasing policy
- They have signed an agreement with WWF committing the company to source only FSC labeled timber when sourcing from outside the EU by 2008.
- In Russia, they currently source only FSC labeled timber (from Dammers in Archangelsk)
- They wish to increase procurement of Russian wood, but will only purchase FSC certified timber, or from companies committed to certification (proven by membership of the Environmentally Responsible Wood Users Group of Russia)
- They are in negotiations to purchase FSC certified paper (indirectly as they purchase printed papers), and aim to use only paper products with FSC sourced fiber by 2008
- they are active in the European DIY retail Association environmental group

Other European retail groups follow similar policies e.g. Bahr (www.maxbahr.de/unternehmen/umwelt/04.html) in German only, Obi (www.obi.de/de/company/en/Unternehmen/Umweltsponsoring/index.html) and Migros from Switzerland with their innovative CSR project 'Engagement' that also includes forest certification (www.engagement.ch/portaldata/2/flashfiles/navigation/flashframeset.aspx) in German, French and Italian.

5.2 Risks and Barriers to Forest Certification Development in Russia

Voluntary forest certification is included in both the existing Forest Code and the new draft of the Forest Code. At the same time, however, there are still a number of barriers preventing better integration between CSR practices, law enforcement and state governance. These include:

- 1) Responsible companies implementing certification were in some cases punished (fined) by the Regional forest agency because current forestry regulations sometimes contradict the requirements of environment regulations and certification rules.
- 2) Some government agencies still have "nostalgia" related to mandatory certification, and may have a biased approach to different certification schemes (e.g. favoring the National scheme which may have a lesser market value than others).
- 3) The requirements of new regulatory instruments such as FLEG(T) may overlap certification-based initiatives and create additional administrative costs for responsible companies.

Our research has identified some barriers which slow down the development of CSR and forest certification in Russia. The main barrier is the absence of trust between Government and business, and the Federal Forest Service (FFS) and harvesting companies in particular. In other branches of the National economy, there are examples of mutual trust and cooperation between government and business (e.g. Government and business joint project, announced by Prime Minister M. Fradkov, "white" list of exporters (a simplification of custom clearance for responsible exporters)).

Another barrier is the difference between forest norms and some specific certification requirements such as dead tree retention and preserving key biotopes. The normative base of Russian forestry has been significantly updated since the middle of the 1990's, with new requirements coming from International conventions. According Article 3 of the Forest Code, international agreements have priority over Russian legislation. In practice however, forest officials wait in vain for relevant government explanations and instructions,. All this creates juridical collision.

At the same time there are also examples of positive cooperation between some regional forest agencies and forest companies on CSR issues. For example the Administration and Forest Agency of Archangelsk includes the presence of certification as one factor when bidding for a forest concession. Similar processes are on-going in Krasnoyarsk, Vologda, while in some regions (Kirov, Karelia) the situation is less favorable for CSR. It is clear that positive regional examples should be promoted at the Federal level in order to ensure support for responsible (e.g. certified) forest companies.

A clear National Certification Strategy should be formulated based on an un-biased and informed approach. The existing World Bank Forestry project and a request from the Ministry of Natural Resources in Russia to formulate requirements for wood tracing systems in voluntary certification may help this process. A working group between Government officials, business and NGO's would be excellent tool achieving this goal.

5.3 Association of Environmentally Responsible Forest Companies of Russia

A number of companies have joined the Association of Environmentally Responsible Timber Producers of Russia, which is the single forest business Association largely devoted to CSR principles. The strategic goal of Association Members is to promote environmentally responsible, socially beneficial and economically viable management of forests, thus preserving the natural heritage of Russia for the generations to come. Among the members of the Association are the Ilim Pulp Enterprise, Archangelsk PPM, Volga PPM, Solombala sawmill and other leaders in CSR in the Russian forest sector (see Table 3).

Table 3. Characteristics of Russian members of the Association
(from <http://www.panda.org/downloads/forests/pdfgftnlist.pdf>)

| Company | Type of company | Commitment to certification, in ha |
|-----------------------------------|------------------------|---|
| Volga Pulp & Paper Mill | Paper Manufacturer | 132000 |
| Arkhangelsk Pulp and Paper Mill | Paper Manufacturer | 600000 |
| Ilim Pulp Enterprise and Saw Mill | Paper Manufacturer | 8400000 |
| Cherepovetsles | Sawmill | 500000 |
| Dammers | Sawmill | 65905 |
| Fankom | Manufacturer - panels | 300000 |
| Kartontara | Paper Manufacturer | 20000 |
| Lesosibirsk LDK 1 | Sawmill | 336763 |

| Company | Type of company | Commitment to certification, in ha |
|---|------------------------|------------------------------------|
| JSC Sawmill 25 Arkhangelsk | Sawmill | 100000 |
| Solikamskumprom | Paper Manufacturer | 700000 |
| TAMAK | Manufacturer - joinery | |
| Northern Timber Partnership - Sawmill No. 3 Arkhangelsk | Sawmill | 100000 |
| Solombala LDK | Sawmill | 500000 |
| Swedwood Tikhvin | Forest Manager | 100000 |

The Association is part of the Global Forest and Trade Network – an International network whose aim is to promote the responsible trade in forest products and good forest management among its members (www.gftn.org).

The main aims of the Association are:

- Creation of environmentally responsible forest industry and promote a positive image of ecologically responsible timber producers, government agencies, and NGOs in Russia and abroad.
- Enhance of the attractiveness of forest enterprises, which are Association Members, from an investor perspective.
- Promotion of goods and services offered by Association Members to the international market of certified products.
- Establishment of direct business contacts between Association Members and international certified forest product buyers groups.
- Integration into the international market of certified forest materials and products.
- Conservation of forests as part of the Russian natural heritage for future generations.

This Association plays a very important role in the development of CSR in the Russian forest sector. The statutes and monitoring procedures within the Association endorse the active commitment and implementation of CSR principles, while market benefits and information flow to the members support CSR development within the corporate sector.

5.4 Eco-Ratings and Other CSR Practices in the Russian Forest Industry

5.4.1 Russian Eco-Rating Scheme

A recent development within Russia has been the development and publication of Eco-ratings by the rating company Expert RA. This scheme not only looks at wood supply but also the environmental impacts of the company itself. Effluent discharge, disposal of waste, atmospheric discharge, ground water contamination, existence of environmental improvement plans are all taken into account. To join the scheme is voluntary, but involves a fee. The English description of eco-ratings can be found at: http://www.wwf.ru/about/what_we_do/forests/ratings/current/eng/

The Expert RA rating agency, on the initiative of the WWF Russia, ascribed ecological responsibility ratings to 30 companies in the Russian timber-processing industry. The main aim of the project is to develop an independent set of criteria that will allow an objective estimation of the efficiency of nature protection by participating companies. The Eco-rating project was inspired, among others, by the Dow Jones sustainability index and the Indian eco-rating of Pulp and paper companies.

The project "Ecological rating of timber-processing industry in the Russian Federation" is run within the framework of WWF Europe as an initiative to create a complex system of ecological ratings aimed at improving the ecological consciousness of different forest sector enterprises and, consequently, to improve the protection of environment. As it turned out, the project enjoys the support of different circles - starting from timber-processing enterprises themselves and up to consulting companies and the general population. The technique of ecological rating was developed by the «Expert RA» rating agency together with WWF Russia and other Russian NGO's. It takes into account specific features of the Russian forestry, timber processing and pulp & paper industry. The ecological responsibility of enterprises was estimated according to the following criteria:

- The level of impact on the environment by the business (impact of different actions of the company on the environment, usage of ecologically safe materials and procedures within the framework of the business)
- The level of ecological management (the company management's attitude towards the issues of ecological safety, and readiness of the management to stick to the rules of ecological safety and attend to detrimental environment conditions caused by the company)
- Openness of the company to the ecological problem, and its readiness to engage in dialogue with organizations dealing with ecological safety matters (including state organizations)

The first eco-rating assessment was carried out in 2003-2004 and revised during 2005 (results shown on table 4). A comparison of 2 eco-ratings shows that:

- 1) 11 companies did not provide current data for the revision.
- 2) 6 companies increased their eco-rating
- 3) 13 companies confirmed their eco-rating
- 4) No company lowered its initial eco-rating

Table 4. Expert RA eco-rating of Russian forest companies

| Company | Initial rating, 2003 | Current rating, 2005 | Trend |
|-------------------------------|----------------------|----------------------|-----------|
| Arkhangelsk Pulp & Paper Mill | ecoB++ | ecoB++ | Stable |
| Baykal Pulp & Paper Mill | ecoC++ | ? | - |
| Volga Paper | ecoA+ | ecoA+ | Stable |
| Dallesprom | ecoC++ | ? | - |
| Dvina Harvesting | ecoB | ecoA | increased |
| Igirma-Tayriku | ecoB+ | ? | - |
| Kartontara | ecoA+ | ecoA+ | Stable |

| Company | Initial rating, 2003 | Current rating, 2005 | Trend |
|--------------------------------|----------------------|----------------------|-----------|
| Kotlass Pulp & Paper Mill | ecoB++ | ecoB++ | Stable |
| Mondi business paper Syktyvkar | ecoA | ecoA | Stable |
| Onega LDK | ecoA+ | ecoA+ | Stable |
| Pinjuga Harvesting | ecoC+ | ? | - |
| Plitspsychprom | ecoB++ | ecoB++ | increased |
| SLT - Timberplant #3 | ecoB | EcoB++ | increased |
| Nord-West Timber Company | ecoB+ | ecoB+ | Stable |
| Solikamskbumprom | ecoB++ | ? | - |
| Solombala LDK | ecoB++ | ecoB++ | Stable |
| Solombala Pulp & Paper Mill | ecoB+ | ? | - |
| Stupino KPK | ecoB+ | ? | - |
| Terneyles | ecoB++ | ? | - |
| Tyndales | ecoC++ | ? | - |
| Ust-Izhora Veneer Company | ecoB | ? | - |
| UILPK | ecoB++ | ecoB++ | Stable |
| Ust-Pokshenga LPH | ecoB+ | ? | - |
| CKK | ecoB+ | ecoB+ | Stable |
| Cherepovets les | ecoA | EcoA+ | increased |
| Chudovo-RWS | EcoB++ | ecoA | increased |
| Shatura | ecoB | ecoB++ | increased |
| LEMO | ecoB _{pi} | ecoB _{pi} | Stable |
| Novoyeniseisky KLPKH | ecoB _{pi} | ecoB _{pi} | Stable |
| National Timber Company | ecoB _{pi} | ecoB _{pi} | Stable |

| Class | Description |
|-------|---|
| ecoA | High level of ecological responsibility |
| ecoB | Satisfactory level of ecological responsibility |
| ecoC | Low level of ecological responsibility |

Each class contains three sub-classes depending upon the comparative level of ecological responsibility within the company - *in the range of each particular class only*. Each sub-class looks as follows:

N++ - the level of ecological responsibility is higher than the average within the class;
N+ - the level of ecological responsibility corresponds to the average within the class;
N - the level of ecological responsibility is lower than the average within the class,
where N - is the index of the class of ecological responsibility,

It is interesting to note that companies that lead the way in forest certification are also currently on top of the eco-ratings list (JSC Volga A+, Neusiedler A) and companies with no certification programmes are either at the bottom (Baikalsk C+) or did not show interest in the second trial.

Eco-ratings and certification are different assessment tools. Forest certification does not cover some important aspects of management, such as the environmental impact of processing units (e.g. level of waste, programs to reduce emissions, effluents etc). Such practices are normally covered by the ISO14001 management system, which is complementary to forest management certification when attempting to reach best CSR practice. Many large Russian Pulp and Paper mills have, or plan to implement, both ISO14001/FSC certification (Neusiedler Syktyvkar, Ilim Pulp, Volga, Archangelsk Pulp and Paper et al). These companies normally rank highest in the Eco-ratings.

Eco-rating is a soft tool, based mainly on supplied company information with an element of external verification. There is no serious third party verification which is now the core element of responsible procurement practices. In this respect Eco-rating mainly serves the companies themselves (to verify CSR development), but also Government and to some extent responsible investors. A wider promotion should be carried out to attract the attention of investors to Eco-rating in Europe and Worldwide. The Russian government has little knowledge and information about Eco-rating as a result of their emphasis on law enforcement and ignorance of "soft" management tools.

The Ministry of Economic Development and Trade (MEDT) recently announced that part of the responsibility for regulatory functions might be delegated to professional Associations. In the forest sector, there is a discussion to establish one Association (in place of the existing 20) with higher authority and functions. It is expected that such an Association could be created in the end of 2005. The prototype of this powerful Association, known as the Confederation of Associations and Unions of Forest Industry was established in June 2005, and was endorsed at the recent International Forest Forum in October 2005 in Saint Petersburg. Eco-rating could be used by such a body to disseminate information and to provide feedback on performance to both Government and industry.

5.4.2 Wood Tracing Systems

Some Scandinavian wood importing companies have introduced wood tracing systems in order to ensure the exclusion of timber from old growth forests, illegal wood and wood from High Conservation Value forests (UPM <http://w3.tracingimports.upm-kymmene.com/>, Svetogorsk PPM (part of International Paper) <http://www.internationalpaper.com/Our%20Company/Environment/EnvironmentalStewardship.html>)

Traceability works in the opposite direction to Chain of Custody, an integral part of certification allowing the use of an environmental logo on the product. Chain of Custody is the documentation accompanying logs leaving the certified forest that is passed on throughout the value chain until the end product is sold, thus guaranteeing the use of certified timber in the product.

Companies such as Axel Springer Verlag and Otto Versand could not wait for the slow implementation of FSC in Russia and worked together with UPM of Finland to create a wood tracing system to ensure that fiber from old growth forest in Russia was not

included in the paper they bought from UPM in Finland. Finnish mills buy up to 20% of short fiber requirement (Birch) from Russian suppliers.

Voluntary moratoriums on old-growth forest logging (Stora Enso, UPM Kymmene, Metsaliito, other Finnish companies) were implemented after a Greenpeace Germany campaign in 1995 against the then Enso Gutseit, whereby the Chairman of Enso received over 50,000 letters of complaint against his companies actions and purchasing policies in Karelia. Indeed, this action was the catalyst for JSC Volga (with German shareholders at that time) to start looking at forms of assurance of acceptable wood supply and certification in 1996.

Wood tracing programs were initially based on the idea to separate legal and illegal timber, and additionally to get rid of wood from intact forest massifs, identified by NGO's. Lately, Finnish companies and Svetogorsk PPM have started to estimate the quality of forest management (harvesting and reforestation) and look at cultural issues in their wood tracing programmes. These programmes were initially boosted by predominantly Finnish companies rejecting FSC certification, mainly for political reasons based upon the effect FSC would have upon the many small forest owners in Finland (with the average forest holding being only 35ha).. In the last one to two years the situation has significantly changed. Stora Enso and UPM Kymmene decided to move towards FSC certification and are now working on integration of wood tracing systems into an FSC chain-of-custody standard. It is likely that the Metsaliito Company will accept PEFC certification and integrate their system into the PEFC chain-of-custody.

5.4.3 Traditional Social Programs of the Russian Forest Product Companies

A fact that is little known abroad is that many forest companies implement social programmes. Normally such programs are not advertised, but they are very common. It is a debatable point whether this can be considered as CSR rather than a legacy of the centrally planned economy. Many forest companies support a significant level of social activities including kindergartens, health clinics, schools, heating and effluent treatment for the municipality, cultural and social events and transportation. These types of activities are normally demanded by regional and local administration in addition to being an integral part of forest leasing agreements. Such programmes can be seen as the foundation for further CSR activities.

5.5 Main Effects of Forest Certification in the Russian Forest Management

There is currently a significant lack of research showing the economic benefits of forest certification in relation to forest management. The reason for this is that some benefits are accountable, while other benefits cannot be accounted currently due to the absence of social and environmental accounting mechanisms in many fields where certification leads to improvement (e.g. Conservation of biodiversity, ecological functions).

Some certified companies (interview with Ilim Pulp) found that certification is improving forest management, logistics and related processes inside the forest company. and that makes certification important from this standpoint. Other interviewed companies (e.g. Titan, Onega) found that there are economic benefits in environment and social improvements imposed by certification, but they are not able to quantify such effects. *This issue is the key to encouraging further investments in CSR and forest certification from corporate shareholders.*

Table 5. General benefits of CSR compliance in the forest sector (other than the companies themselves who will be covered in the next section)

| Beneficiaries of CSR compliance in forest sector | Economic | Law enforcement | Social | Environmental |
|---|---|---|---|---|
| Business and Government (MEDT) | Improving market access, improving image of company, improving investment opportunities and reducing overall corporate risk. Improving profitability of forest management | Reducing fines and payments due to non-compliance with law | Increased output from personnel, reducing conflicts with local communities | Improving vitality and sanitary state of forest ecosystems, |
| Government (Forest Agency, Rosprirodnadzor, Tax inspection, Custom) | Ensuring timely and full stumpage fees and other tax payments | Reducing illegal logging, improving reforestation, harvesting operations, control over management units | Improving government workers employment conditions through better cooperation with business | Ensuring compliance with legislation of different protection regimes in forests |
| NGO's, indigenous people and Government (Environment authorities) | Business is fair | Better law enforcement, ecological expertise of forest management plans in place | Indigenous people rights are safeguarded | Conservation of biological diversity, conservation of soil and water resources, et al |
| Workers and Trade unions | Wages and social packages conform to best practices, and paid regularly. | Collective agreements are in place | Worker health and safety program is implemented efficiently. | |

| Beneficiaries of CSR compliance in forest sector | Economic | Law enforcement | Social | Environmental |
|---|--|---|---|--|
| Local population, local administrations | Forests and rivers important for local population (e.g. rich in mushrooms, berries, game and fish) are protected | Interests of local population are ensured through participation in forest management planning | Local population is supported in fuel wood, wood for building houses and other services | Necessary forests and rivers are protected |

For the purposes of economic analysis it is important to assess social and environment benefits using an economic approach. The economic benefits of CSR to companies working in the forest sector may be summarized as shown in Box 2, and are detailed in section 6.

Box 2. Economic benefits of CSR in the forest sector

Direct accountable:

1. Decreasing production costs (by creating more efficient harvesting planning, better spatial distribution of felling coupes etc.)
2. Decreasing associated costs (reduction in environmental fines through better working practices)
3. Increasing the profitability of forest management (including improved forest productivity by more intensive forest management in selected areas, multipurpose forest management).
4. Lowering social expenses and costs (improving the efficiency of personnel by, for example, reducing the number of days absent from the workplace).

Indirect accountable

5. Increase of output from personnel (improved training level of personal leading to increased output, creating optimal working conditions, lowering staff turnover etc.)
6. Improving the quality of life of local population

Indirect not-accountable

7. Improving the sanitary state and vitality of forest ecosystems
8. Conservation of soil and water resources
9. Conservation of biological diversity
10. Improving company image (for local population, administration and Leskhoz)

The WWF study "The Effects of FSC certification in Russia" by P. Hirshberger, 2005 has identified the main improvements that certification has brought to the Russian forest sector at the forest management level. (see Box 3)

Box 3. Main improvement CSR and certification is bringing to Russian forest sector

*"The main **environmental effect** through certification according to FSC was conservation and enhancement of biodiversity. This was mainly done by assessment and enhanced protection of high conservation value forests as well as other habitats and biotopes. This guarantees that old growth forests are not destroyed irrevocably by inappropriate forest management.*

Certification enforced also protection of rare, endangered and protected species by assessing red listed species and raising the awareness of forestry staff. Certified forest companies had to increase the amount of biotope trees and dead wood, habitat for many endangered forest species, and the quality by using trees of various species, also with a large diameter.

Certification under FSC improved the assessment of environmental impacts and introduced ecosystem based management planning on a landscape level, which is a new approach in Russian forestry.

Another important issue is the protection of resources like soil and water including the adequate disposal of waste left on forest sites after logging operations.

FSC certification reduced the risk of soil damage and compaction by considering the adequate season for harvesting operations and the development of an appropriate system of skidding trails.

Certification raised the awareness of forestry staff regarding chemical substances and the protection of water resources. Waste related to logging operations is now collected and disposed in an environmentally appropriate manner.

*The main **social improvement** by certification under FSC was the implementation of the safety and health guidelines at site level. As forestry continues to be one of the most hazardous sectors, this is a key issue of socially sustainable forest management. The implementation of the safety and health requirements on site level was enforced by systematic controls of compliance. At one forest company FSC certification improved significantly the social conditions of forest workers, including a fair wage payment. The cooperation with the labor union was enforced too.*

Another important improvement is the involvement of all relevant stakeholders and the participation of local communities in the planning process of forest activities. One company had to recognize officially the traditional rights of indigenous people for prioritized right to use resources of flora and fauna as an indigenous Udege settlement is located in the certified forest area leased.

The implementation of the requirements of FSC certification on site level was ensured by additional training of forestry staff on relevant aspects.

*The main **economic improvement** effected by certification under FSC was the enhancement of the quality of forest management planning, including appropriate documentation, monitoring and the verification of the long-term sustainability of the actual harvesting volume. A specific issue for Russia is respecting all relevant legal requirements and paying taxes in time".*

The identified effects are discussed in details below (Table 6)

The WWF analysis (P. Hirshberger, 2005) identified the main areas of improvement CSR would bring to the Russian forest sector and the main non-conformities with international practice. These are illustrated in Table 6 and Box 4. Best international practices were identified using the expertise and experience of the research authors. These areas are very important in order to assess the costs/benefits of CSR in Russia.

Table 6. Deficiencies of current Russian forest management (by P. Hirshberger, 2005) in comparison with best international practices

| Main CSR development area | Traditional Russian practices | Best international practices (for boreal forests, Scandinavian countries, Canada) |
|---|--|---|
| Conservation and enhancement of biodiversity | | |
| 1) Assessment and protection of high conservation value forests | Conservation of important habitats and species is "declared" by different laws, but not efficiently implemented. E.g. there is no Environment protection agency in Russia. Forest habitats are not officially mapped (with some exceptions), no detailed inventory of red book species exists. No government inventory of High conservation value forest exists (exception Komi republic). | In Finland and Sweden there is Government inventory of key habitats and red list species. The European Union Natura 2000 program also supports the mapping and conservation of key habitats and red listed species. High conservation value inventories are carried out by the Government (Finland, Sweden) or with Government-business initiatives (Canada). |
| 2) Ecosystem based management | Ecosystem based management was never practically implemented in Russia, although discussed for the last 80 years. There are no legislative norms available. | Ecosystem based management is implemented through forest landscape planning, and is supported by different government regulations. |
| 3) Reduction of environmental impact by harvesting companies | Some aspects of environmental impact are controlled by law enforcement bodies (Regional environment committees, Leskhozets et al.). But it was always an externally driven element of company management. | Reduction of environmental impact is an internally driven component of corporate management. Companies have internal environmental policies. |
| 4) Protection of soil and water resources | Same as with environmental impact. | Same as with environmental impact. |
| Social aspects | | |
| 5) Improvement of worker safety and health at site level | Worker safety is at a low level due to the traditional ignorance of workers rights, and weakness of trade unions. | High standards of worker safety and health. Systematic control of compliance. |
| 6) Improvement of wage policy | Wages are often at the lowest possible level, and paid with delays. That is due in part to the weakness of trade unions. | Wages are at a level required by legislation and trade-unions, workers are paid regularly. |
| 7) Participation of local communities in forest management planning | Participation of local communities is declared by forestry planning regulations, but normally not implemented. There are occasional conflicts between companies and the local population. | Participation of local population is ensured via legislation and companies practice. |
| 8) Recognition of indigenous people rights | Rights are "gazetted" into two laws, but there are significant gaps in its implementation. | Rights are protected by law, and the voluntary actions of companies (e.g. Sweden and Saami people etc.) |

| Main CSR development area | Traditional Russian practices | Best international practices (for boreal forests, Scandinavian countries, Canada) |
|---|--|---|
| 9) Training of forest staff in sustainable forest management | No specific training is done | Significant training in sustainable forest management |
| Economic aspects | | |
| 9) Increasing quality of forest management planning, including monitoring and verification of long-term sustainability of harvesting volume | Forest management planning is based on norms, elaborated in the 1960ies. Implementation of existing forest management plans leads to the unsustainable timber volumes over the long term | Different forest management system based upon statistical inventory (state) and inventory by forest owner (manager). It is balanced for long-term sustainability of harvesting volume. Long term sustainable yield. |
| 10) Improving respect for legal requirement and paying taxes in time | The number of different legal requirements in Russian forest sector is probably the highest in the world. In practice, companies implement very few of them. The capacity to control/enforce forest law implementation is low. | Legal requirements are balanced with capacities of business. All or nearly all are implemented. |

Some of lessons drawn from this comparison are:

- 1) Best international experience shows the necessity of a government and business partnership in solving ecological, and to some extent social, problems (e.g. concerns related to indigenous peoples).
- 2) Many new instruments of forest planning, absent in actual forest management regulation, should be introduced in order to correspond with CSR requirements.
- 3) Training in CSR issues is a very important element of CSR development.

CSR is often focused on solving the greatest non-conformities between existing practices and CSR requirements. Research has identified major non-conformities to be:

Box 4. Main non-conformities of forest management with CSR

1) Very low stumpage fee

Russia has exceptionally low stumpage fee (right to cut trees). At the same time harvesting, transportation and processing costs are similar in Russia and neighboring countries. Low stumpage fee is the competitive advantage of Russia, however such low stumpage results in poor quality silviculture and the fragile economic state of Russian forests.

2) Illegal logging

Official Russian government estimations of illegal logging show levels of 15-25%. Very often this wood is used by large companies and results from violations of harvesting sites and wood sourcing from "grey" suppliers.

3) Low fines for environmental impact

A comparison between Russia and other countries shows that fines for environmental violations are lower, and implementation of environmental legislation is not ensured. Environmental impact assessment is not always carried out as prescribed by law.

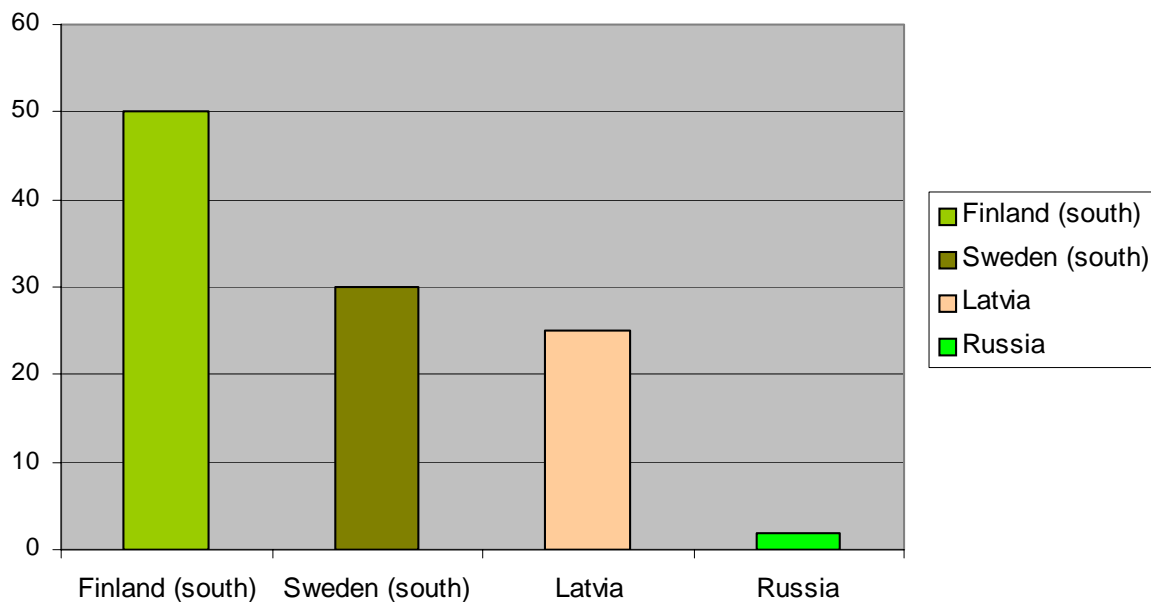
4) Logging of High conservation value forests

In Russia, many categories of High Conservation Value forests are not protected by law (e.g. intact primary forests). In Europe and Canada only tiny portions (1-2%) of intact landscapes remain and consumers are against trade in products sourced from high conservation value forests. Some governments, such as the German government, are considering a ban on trade of such forest products by law.

5) Health and safety issues

Many Western consumers demand accountability of health and safety issues in the forest product trade. The level of deaths and injuries associated with harvesting and processing of forest products in Russia significantly exceeds the average level found in developed countries.

Diagram 8. Average stumpage fee, USD/m³



6. Investment Required to Upgrade Forest Management and Production Processes to Meet CSR Requirements

6.1 Making Forest Certification More Affordable

6.1.1 Costs of Forest Certification in Russia

A typical certification contract is signed between the forest company and an approved certifier for a 5 year period and covers normal forest management and chain-of-custody certification. The contract activity consists of a pre-assessment, a main assessment (audit)

initially with subsequent annual audit visits. Each stage of work is documented by report; a public summary of which is posted on the Internet.

The costs of certification (Cc) for a company consist of the costs of an audit (Ca) and the costs of improvement in forest management (Ci). Thus $Cc = Ca + Ci$

The cost of audit (Ca) consists of expert fees and expenses, and depends on the size of the area leased by the company aiming to achieve certification. The auditing team is lead by a forest management expert with additional experts (e.g. in social, ecological issues) as deemed necessary by the auditing company.

A forest management audit in Russia can take between 3 and 14 days, while Chain-of-custody audits require less time (normally 1-2 days for 1 expert). The involvement of Russian experts has already decreased the costs of audit for some audit companies active in Russian forestry certification. The Ca is normally measured in USD/ha/year. The average costs of forest management certification for large companies are between 0.1-0.2 USD/ha/year. The Ca of chain-of-custody certification is normally measured in USD/m³ round wood equivalent (Rwe), and consists of 0.005 (or less) USD/m³ Rwe.

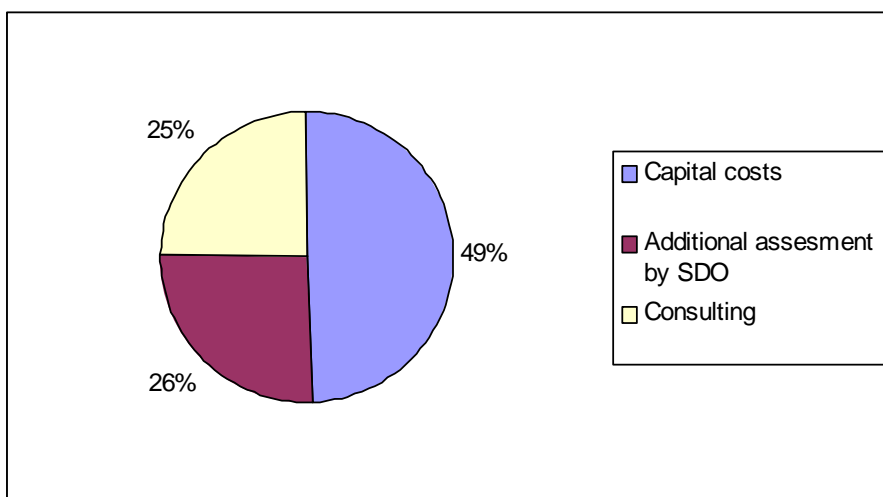
The costs of improving forest management depend upon at which level the company is currently operating. In a typical case in Russia, the company should provide significant investment to reach the level of the certification requirements. In most cases this investment exceeds the costs of audit and the annual monitoring visits.

This sub chapter is compiled on original data kindly provided to FIAS by Onega LDK and the Titan group of companies, both operating in the Archangelsk region. For confidentiality reasons we cannot provide their detailed breakdown of certification expenses, mainly due to certification contract regulations.

25% of all costs were associated with certification audits, while 75% of the costs were employed on the different improvements that the certification process requires from forest companies. From this 75% of funds allocated for improvement goals, approximately 50% were spent on different capital costs (upgrading equipment and protective gear, utilization of waste etc.), and 50% spent on different consultations and in the preparation of the new management documents required by the certification process.

Of the funds allocated for consultants, 50% were used to pay for the services of Specially Designated Organizations (SDO) to ensure compliance with law (e.g. Ecological Expertise of the Cutting plan), or to ensure official forest health expertise, forest fire expertise or to prepare new a forest inventory plan. The rest of the services were provided on a market basis by competing organizations, including different scientific and consulting organizations.

Diagram 9. The cost breakdown of the improvement of forest management inside a typical Russian forest company



It is difficult to lower capital costs as they are prescribed by the auditors as a pre-requisite for certification. The SDO's maintain a monopoly over compliance services and thus these costs are difficult to reduce. It could be feasible to reduce the costs attributed to external consulting organizations by training personnel within forest companies, preparing handbooks and training materials centrally, supporting government and business partnerships in implementing supporting programs (e.g. Mapping of HCVF) and by handing more flexibility in decision making to forest managers. The authors calculation shows that, in the best case scenario, a cost saving of 15-20% on consulting expenses may be possible. In addition, the use of National experts may save up to 10-15% of audit costs.

Altogether, the average Russian company may save up to 10-15% of the actual certification costs in the current situation. However, if the company is operating at international levels (and with international partners/customers), then savings can be much more significant. For example, the certification of the Pskov model forest (managed by Stora Enso and STF Strug) cost well below the average, since the level of forest management was already high.

Box 5. Maiskles company – forecast of certification costs

OAO Maiskles is the leading independent logging enterprise in the Kirov region. They harvest around 400,000 m³ from Kirov and Komi from a leased area of 150,000 Ha. They have started their pre-audit and hope to achieve FSC certification during 2006.

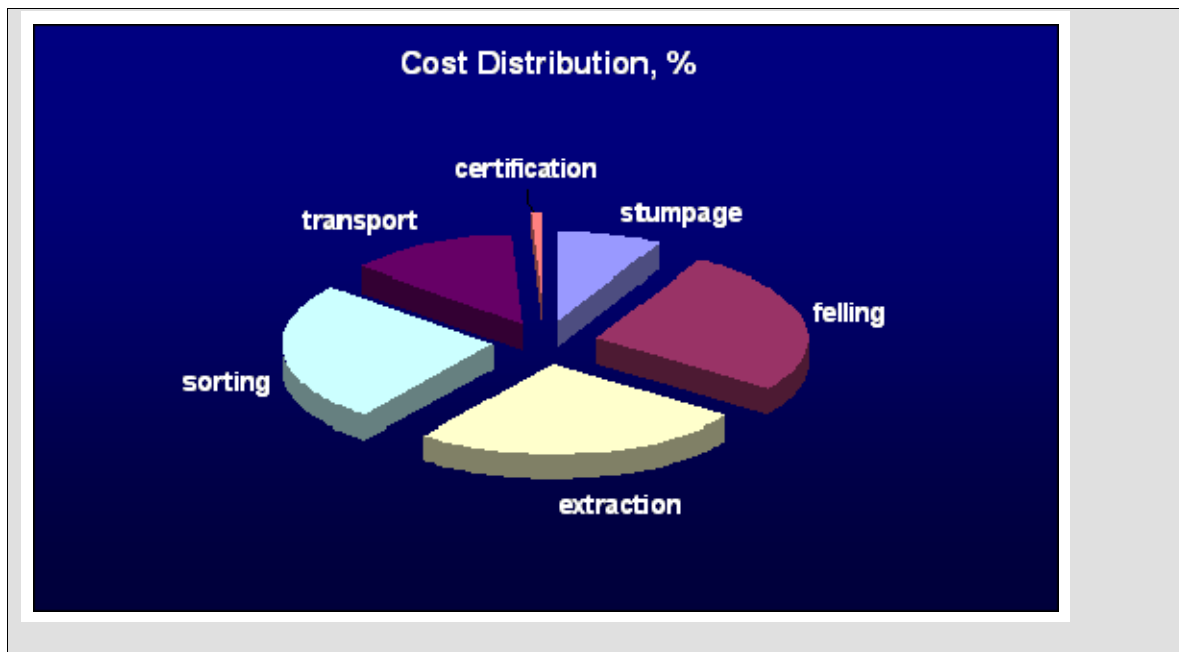
Their breakdown of turnover shows that harvesting accounts for the main supply cost, however other costs, notably the contribution to the employee pension fund, are significant. Maiskles has successfully reduced its social sphere costs over the last five years by handing its housing stock over to the municipality.

Maiskles have consistently paid a stable level of revenue to the state in the form of taxes, direct or indirect, and in fines over the last five year period.

They are harvesting up to 70 km from their lower landing and their costs are increasing. For many years they have been responsible for the restocking of clear fell sites, which they carry out diligently. Maiskles is under pressure from its main client, JSC Volga, to certify to FSC standards. Volga supplies newsprint to Germany and the UK, where end users will demand FSC certification in the future.

Basing their costs of certification the Archangelsk example, the certification cost will add less than 1% to the total felling costs of Maiskles. The felling cost breakdown is illustrated in Diagram 10. This may seem a trivial sum, but reduces it the profit of one of the leading harvesting companies in the region by 50%. They agree that costs are significant, but believe they must invest to improve their long-term access to markets.

Diagram 10. Felling cost distribution including certification costs



6.1.2 Possibility to Decrease Costs and Increase Involvement of Small and Medium Size Businesses

The analysis of the expenses of certified companies shows that there might be several opportunities for lowering the costs of certification. The key elements of lowering the costs of certification is government involvement (on a co-funding basis) in different CSR activities, training of the company's own staff to be able to deliver a quality service in certification, and to unify the efforts of companies in order to avoid duplication of work (and expense).

An example of such a partnership exists in the Komi republic.

Box 6. Corporate, NGO's and government partnership to map and protect pristine forests in Komi Republic

- Inventory and ecological evaluation of pristine forests in the Priluzsky Leskhoz was carried out by NGO Silver Taiga and, together with the Komi forest agency, this was used as the basis for decision-making for on conservation and sustainable management issues.
- Government of Komi funded a special program of inventory and protection of pristine forests, based on the Priluzsky leskhoz example. In 2004, Mondi Business paper Syktyvkar joined the inventors program as co-funder. By the end of 2004, the inventory of pristine forests was completed in 17 leskhozes in the Komi Republic, covering an area of 16,3 million hectares.
- Government of Komi and Vologda state forest inventory enterprise endorsed the regional norm of mapping pristine forests, and their protection, using the specially protective sites (OZU) approach.
- A biodiversity conservation plan for forestry and logging operations in Komi was elaborated and endorsed on a regional level.

In addition, the Komi administration and forest authorities encourage certification of small and medium size companies through the application of certification by Leskhozes, and not by leased areas. The Leskhoz is normally the authority overseeing areas leased by small, medium and large companies. In Komi, one large company (Mondi business paper) covers the certification cost and, at the same time, buys raw material from the smaller enterprises. Such a situation encourages the small and medium size companies to improve their CSR practices.

In Russia, around 40 000 forest harvesting, processing and trade companies were registered in 2003(Goskomstat). Almost 90% of the companies had a turnover of less than 100,000 USD/year, and may be considered small. From the 21 Russian certified companies, only 1 or 2 may be considered as medium size.

Certification is still viewed as a problem by small and medium size enterprises. They complain about the complexity of certification standards, the volume of documentation required (plans, procedures, activities and monitoring) and the cost of certification procedures. One possible solution for small and medium enterprises is the implementation of Group certification, and certification for small forest enterprises.

Group certification allows a number of small forests to work together under a single "group" manager who can provide information to forest managers and should organize a single certification assessment of the group. Group members outsource many responsibilities to the group manager. Group certification is shown to work in areas of the world where there is some form of cooperation between forest owners and managers.

The FSC offer Small and Low Intensity (SLIMF) certification where simplified and less formal procedures are used. The eligibility criteria for SLIMF are the size of forests (100-1000 ha) and low intensity of operations (active harvesting is less than 20% of the AAC, annual allowable cut). These criteria appear relevant for many small and medium size Russian companies, when one considers that in two thirds of the Regions with commercial forestry operations utilize less than 20% of their AAC. It is likely that a combination of

Group certification and SLIMF may provide an optimal solution for small and medium size companies.

The recommendations may be summarized as following:

For all companies:

1. Lobbying for government participation (co-funding) of forest CSR programs, including, for example, mapping and conservation of high conservation value forests, protection of biodiversity in commercial forests etc.
2. Reduction in the reliance upon expert outsourcing (consulting) during the preparation of the certification process and documents, and the further implementation of corrective actions outlined by auditors. Trained company employees should be used to replace external experts.
3. Support (collective) development of materials, maps, methodology and assessment methods, which can be used later by all certified companies, instead of using individual expert services in each case.
4. Support development of regional training and certification centers that can professionally serve clients.

For large and medium size companies, having several leasing areas, and different wood supply areas:

5. Application of Group certification, instead of individual certification of harvesting sites. This will require a similar level of forest management within all participants of the group.
6. To participate in the certification of entire leskhozoes, involving small and medium sized leaseholders.

For small and medium scale companies:

7. Application of specialized SLIMF (Small & low intensity management of forests) certification, which use less sophisticated procedures for auditing and monitoring. The application of SLIMF approach instead of traditional certification may substantially reduce certification costs.
8. Application of both SLIMF and Group certification approaches.

6.2 Upgrading Russian Silvicultural Practices to CSR Level

The majority of interviewed companies and officials expect that the main improvements CSR will bring to the forest product value chain are in silviculture and harvesting. Using the results of interviews with forest product companies provided during project execution in addition to other sources, an assessment of the effects of CSR on Russian forest management was carried out.

Operations within the field of forest management may be subdivided into the activities shown in table 7, where the level of effort is an indicator of intensity of operations, showing among other things, the level of investment in a certain activity. The best indicator of efforts in forest management is the level of stumpage fee (see Diagram 8). Stumpage fee is the main payment that is used to finance silviculture operations. The

stumpage fee in Russia is 25 times less than in Finland, 15 times less than in Sweden and 10 times less than in Latvia. The stumpage fee in Russia is the lowest in the World. The Government must subsidize silviculture in Russia as revenues from stumpage fee and other payments are less than the budget spending on silviculture.

Today (2005) the responsibility to implement silvicultural operations is still mainly within leskhozoes. However, starting from 2006, the responsibility will be transferred more and more onto the forest concession holders.

The authors, together with Peter Yee from Consilium International, elaborated a model to assess the efficiency and investment needs within segments of the Russian forest value chain. The main operations within each segment were defined and assessed from a position of level of effort (a combination of technical level, investment and efficiency), responsibility, environment impact and other factors. Our results are presented in the following series of tables.

Table 7. Efficiency of silvicultural operations under the traditional Russian approach,, international best practice and the Russian approach to silviculture post certification

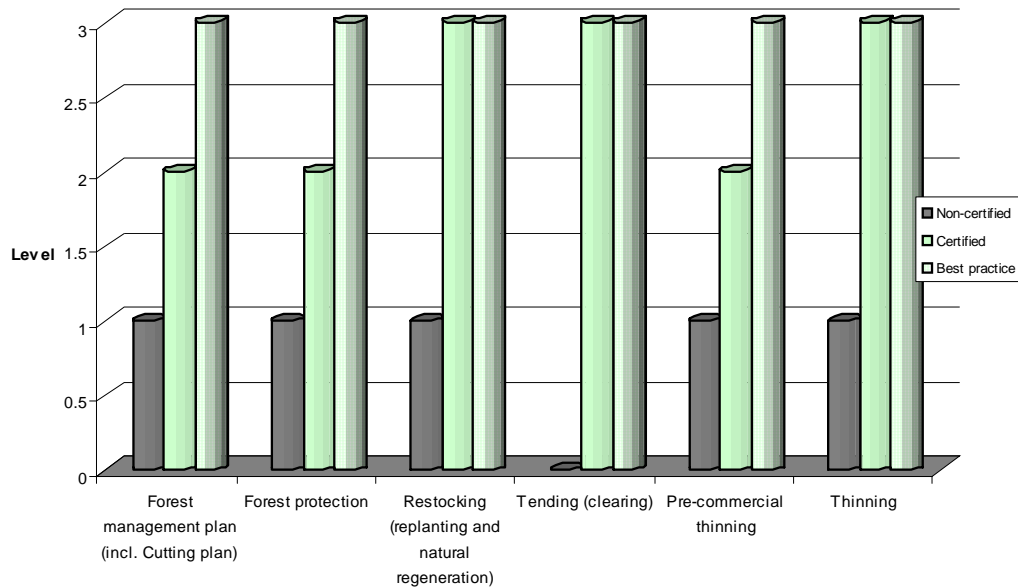
| Activity | Pre-certification, Russia traditional approach | | International best practices, Finland, Sweden | | Post-certification, Russia | |
|---|--|--------------------------|---|----------------|----------------------------|------------------------|
| | Level of effort | Responsibility | Level of effort | Responsibility | Level of effort | Responsibility |
| 1) Forest management plan (incl. Cutting plan) | Low | Public, forest inventory | High | Private | Medium | Joint (public/private) |
| 2) Forest protection | Low | Private* | High | Private | Medium | Private |
| 3) Restocking (replanting and natural regeneration) | Low | Private* | High | Private | High | Private |
| 4) Tending (clearing) | - | Private* | High | Private | Medium | Private |
| 5) Pre-commercial thinning | Low | Private* | High | Private | Medium | Private |
| 6) Thinning | Low | Private* | High | Private | High | Private |

* According to the new forest code for leased forests, projected to the beginning of 2006. There is no commercial activity in the non-leased forests and, consequently, state forest management units mainly focus upon forest protection.

Certified forest management (FM) operations may be seen as an intermediary step between traditional Russian FM and best international practices. Diagram 11 shows the

overall level of investment / efficiency in non-certified silvicultural operations is 5 (obtained by adding the x-axis values or “non-certified” together), certified – 15, and best practice – 18. According to our model, investment in certification creates a threefold increase in the efficiency of silvicultural operations, bringing it almost to the level of international best practice. Best international practices in forest management can only be achieved through a combination of CSR, modern policies, improvement of legislation and governance.

Diagram 11. Level of investment/efficiency in silviculture



Level 0 – absence, level 1 – low, level 2 – medium, level 3 – high investment / efficiency

Moderate investments is required in all elements of silviculture. This requires forest management rights be held solely within a forest company and not separated between the company and the leskhoz (as it is now). The new Forest code foresees the following necessary mechanisms to ensure this process.

Some of outputs of the research:

- 1) Certification provides a significant boost to the improvement of silvicultural operations in Russia.
- 2) At the same time, best international practices in forest management can be achieved only through a combination of CSR, modern policies, improvement of legislation and governance.
- 3) Investment into new forest management (FM) plans should be considered as very important. Certification requires new plans which, on the one hand, are more complex, but provide more flexibility on the other hand. Investments in such plans may be considered to be 3-4 times higher than in the current FM plans (e.g. Omega LDK). Investment must be carried out by the company.
- 4) According to the new Forest Code, investment in forest protection will also be the responsibility of the company.. The most important issue in this process is to offer companies the necessary training in forest protection.

- 5) Investment in **restocking** will be the responsibility of the company, according to the new Forest Code. Certification will help to define a suitable ratio between different reforestation techniques (artificial and natural). Such investments will be beneficial for the company as the quality of reforestation by leskhozoes is poor. Investment in improving the forest road system is a prerequisite for quality restocking. Investment in restocking will be the responsibility of the company, while government and corporate partnership are required to invest in the development of forest road network.
- 6) Tending and pre-commercial thinning will be a new component of forest management in Russia. Here the main needs will be for training in planning processes, and in the implementation of tending and pre-commercial thinning. Investment in improving the forest road system is a prerequisite for tending and pre-commercial thinning.
- 7) **Thinning**. Their implementation should be commercially beneficial. The main needs will be training for proper planning and implementation of tending. Investment in the improving forest road system is prerequisite for thinning.

The investment in silviculture should be made by a responsible forest owner (Forest Product Company) having a long-term lease, and being responsible for all management operations over the whole cycle of forest management (restocking, thinning and felling). The current situation, where such responsibilities are divided between leskhozoes and companies, creates an unsuitable climate for silvicultural investments.

6.3 Upgrading Harvesting Operation to CSR Level

Harvesting operations are conducted by forest companies, with exception of thinning and sanitary cuttings. The latter are carried out by leskhozoes when forest companies do not execute thinning operations. Because forest management is still divided between leskhoz and companies, and the forest management rules are inflexible, companies still hesitate to invest in improving their harvesting operations, except in the case of the procurement of modern harvesting equipment. Statistically, around 25% of wood (by volume) is harvested using modern equipment and 75% with old equipment and technology. In general, the level of effort (investment) in harvesting operations in Russia is low compared with best international practice. Forest harvesting operations may be subdivided into the activities shown in Table 8:

Table 8. Harvesting value chain; traditional, CSR (Russia) and international best practice

| Activity | Pre-certification | | Post-certification | | Post-certification with modern technology | |
|--------------------------------|--------------------------------|----------------------|--------------------------------|----------------------|---|----------------------|
| | Level of effort/ effectiveness | Environmental impact | Level of effort/ effectiveness | Environmental impact | Level of effort/ effectiveness | Environmental impact |
| 1) Infrastructure construction | Low | High | Medium | Medium | Medium+ | Medium- |
| 2) Tree felling | Low | - | Low | - | High* | Low |
| 3) Extraction | Low | High | Low | Medium | High | Low |

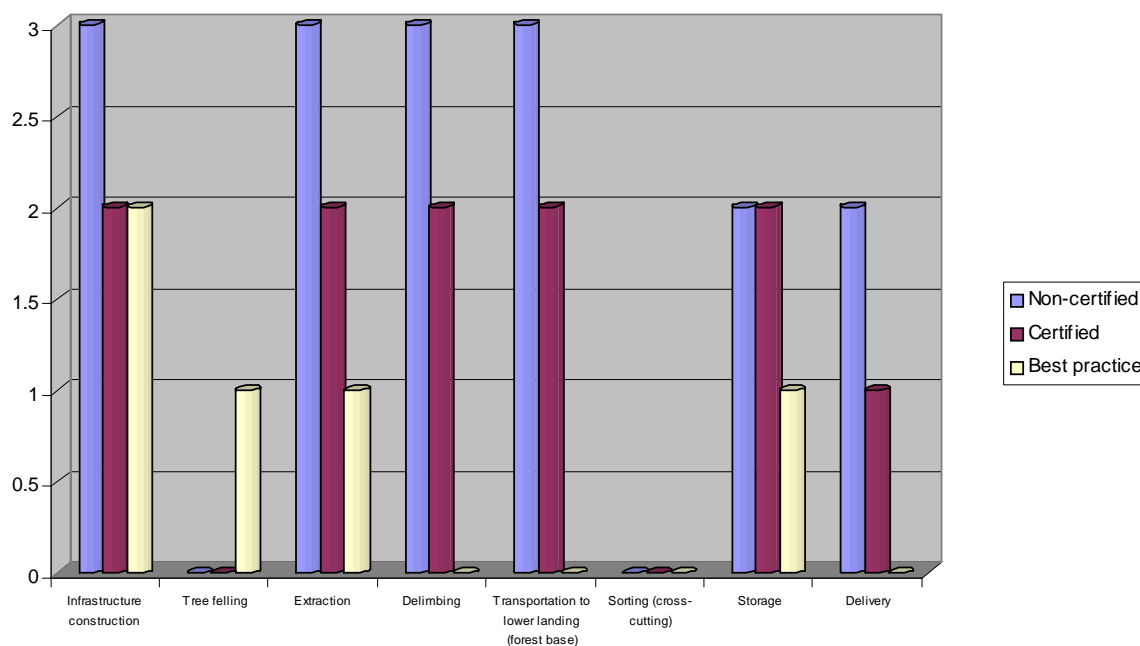
| Activity | Pre-certification | | Post-certification | | Post-certification with modern technology | |
|--|-------------------------------|----------------------|-------------------------------|----------------------|---|----------------------|
| | Level of effort/effectiveness | Environmental impact | Level of effort/effectiveness | Environmental impact | Level of effort/effectiveness | Environmental impact |
| 4) Delimiting | Low | | Low | | High* | - |
| 5) Transportation to lower landing (forest base) | Low | High | Medium | Medium | Not exist** | - |
| 6) Sorting (cross-cutting) | Low | - | Low | - | High* | - |
| 7) Storage | Low | Medium | Low | Medium | High | Low |
| 8) Delivery | Low | ? | Low | ? | Medium | No impact |

* Under modern technology steps 2,4,6 are combined

** Under modern technology step 5 does not exist

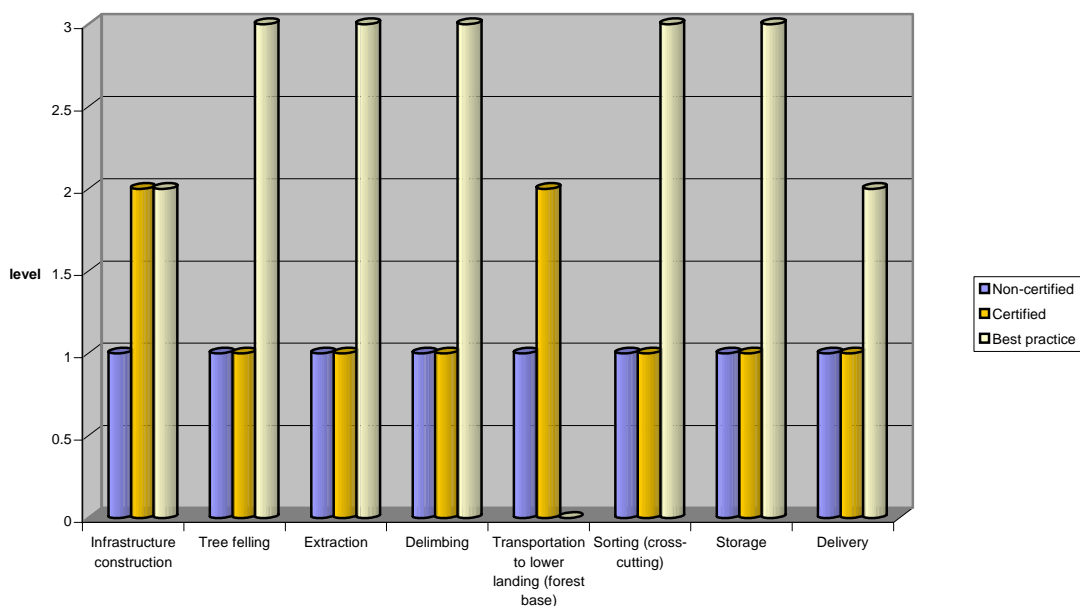
A decrease in the environmental impact of harvesting operations is one of main objectives of for the implementation of CSR in harvesting operations. Our model, illustrated in Diagram 12 below, shows that the overall level of impact in non-certified harvesting operations (16) is 1,5 times higher than in non-certified, and 3 times higher than in case of best practices (use of modern harvesting equipment, intensive road building, new harvesting approaches with an emphasis on thinning rather than clear cut), and more flexible harvesting rules.

Diagram 12. Environmental impact of harvesting operations



Certified harvesting operations may be seen as an intermediary step between traditional Russian harvesting operations and international best practices that are based upon the use of the modern harvesting equipment. The overall level of investment / efficiency in non-certified harvesting operations is 8, certified – 10 and best practice – 19. According to our model, Diagram 13, certification only provides a modest increase in the efficiency of harvesting operations because it is not complemented by the use of modern equipment, intensive road building, new harvesting approaches (emphasis on thinning instead clear cut) and more flexible harvesting rules. Best international practices in forest management can be achieved only through a combination of CSR and innovative approaches in forest planning systems and flexible harvesting rules.

Diagram 13. Level of investment / efficiency in harvesting



Level 0 – absence, level 1 – low, level 2 – medium, level 3 – high investment / efficiency

Some outputs of the research:

- 1) Certification without changes in forest planning, harvesting methods and forest management rules and legislation provides a significant decrease in the environmental impact of harvesting operations, while only modestly contributing to the efficiency of harvesting operations.
- 2) Best international practices in forest management can only be achieved through a combination of CSR and innovative approaches to forest planning, flexible harvesting rules, the use of modern equipment and intensive road building.
- 3) Improvement in the road system and other infrastructure on harvesting sites is one of key elements of the CSR approach. The Russian government recently adopted a forest road construction program in cooperation with business. Such investment may be seen as one of the prerequisites for responsible harvesting operations.

- 4) Certification does not necessarily significantly change the character of tree felling, extraction and de-limbing, sorting, cross-cutting or delivery. Investments in improving such operations have a purely economic basis, and may be made within or outside a CSR program. On the other hand, the modernization of harvesting operations and the use of modern equipment will reduce the environment impact of such operations.
- 5) It is very important that any new investment targeted at harvesting operations, starting from road construction, is aimed at increasing the economic efficiency of these operations in addition to reducing the environmental impact. For example, the use of harvesters should not increase the level of soil damage on a harvesting site.

6.4 Model of the Costs & Benefits Associated with Implementation of Certification in Forest Management

Best international practices are ensured not only by business-led CSR programs, but also by business-and-government partnerships and programs. In countries such as the Russian Federation, some programs may be implemented using World Bank loans and donor grants. Because of the mixed sources of funding, it is difficult to assess the cost/benefits of CSR development for the whole country, or indeed for a small individual company.

The WWF report has identified 10 main areas of improvement in forest management in Russia (Box 3, Chapter 5). Many interviewed companies (e.g. Ilim Pulp, Titan group, Onega LDK and Maiskles) are interested in the cost/benefit of implementing certified forest management within their organizations. The analysis below is one of the first attempts to research this issue.

6.4.1 Cost/Benefits of Conserving High Conservation Value Forests

As a result of previous logging history, high conservation value forests in commercial areas are mainly found in remote, and often damp, sites in addition to low productive old-growth forests. In other words they are found in areas that are not commercially attractive. Wet forests often contain the greatest species diversity and highest concentration of rare species.

The existing forest norms and leasing policy of the Forest Service and regional administrations force companies to cut 100% of the leased area (i.e. 100% use of the annual allowable cut - AAC), with the exception of forests that have protected status. Under-exploitation in terms of the AAC can lead to fines, but in practice the exploitation of AAC in Russian commercial forest varies between 30 and 60%. Thus companies are in fact not exploiting volumes designated for felling.

Companies often do not have the resources to build roads to remote places in their concessions, especially if the leasing is short term. Logging in wet and other low productive areas is normally neither economically viable, nor ecologically beneficial. Companies prefer to pay fines rather than to harvest such areas.

Certification requires management to set aside the harvesting of 10-15% of the forest area. According to the WRI Global Forest Watch in approximately 80% of cases, HCVF are found in remote, low productive and wet areas. Only 20% are economically accessible and valuable forests. For a typical forest concession of 250 000 ha, the exploitation of AAC is only 50%. Different calculations show that investment in road building to double exploitation to achieve AAC would not be economically justified. In practice, the forest road network in Russia cannot develop without government support. In such a situation, it will not be a major challenge for a company to set aside 10-15% of their forest for conservation.

The costs of HCVF conservation are associated more with the HCVF inventory, as set-aside actually accounts for only 2-3% of economically productive forests. These costs are estimated to be \$25 000 USD in a 5 year period for the above mentioned concession (taking into account net profit from timber sales). At the same time decreasing fines from undercutting (and non-use of AAC) may save up to \$10 000 USD during the same time period for protecting HCVF. As a result, protection of HCVF in Russian forests is not so costly compared with countries with intensive forestry and an intensive forest road infrastructure. In many cases protection of HCVF will be profitable for the company. The main problem for HCVF protection is the actual leasing and taxation policies and mandatory definition of AAC for leskhozoes. These policies should be reconsidered when preparing new forest regulations.

6.4.2 Cost/Benefits of Ecosystem Based Management

Ecosystem based management is a new approach that takes into account different geographical and landscape factors and results in site adapted forestry. The existing Russian regulations and reporting systems are not flexible enough to consider different site features such as soil variation, local topography and the natural succession within forest ecosystems.

The benefits of adopting such an approach include significant savings in forest regeneration (restocking) costs, the higher quality of the regenerating forest and the decreasing probability of forest fires and pest attacks.

The costs of adopting ecosystem based management were calculated for the Pskov Model forest (10) (circa \$0.01 USD/ha), and the benefits exceed costs significantly. The main effect kicks in after 10 years of ecosystem based forest management, although benefits are clearly visible after five years.

6.4.3 Cost/Benefits of Reduced Environmental Impact and Protection of Soil and Water Resources

Certification strongly encourages reducing the environmental impacts of forest operations, improved waste management (especially in forest disposal of oil and lubricants) and infrastructure development (roads, camps, stacking areas in the forest). Typical Russian harvesting companies poorly utilize oil and lubricants and do not have relevant waste management systems in place. As a result, typical harvesting operations are characterized by oil spills, garbage and bark dumps in riparian zones. Roads are often built without

consideration to ecological issues. Ecological expertise contributing to the cutting plan is an exception, even though it is prescribed by law. Harmful pesticides are also in use (e.g. PBC rich oil in old transformers).

Due to the minimal implementation of laws, the costs of reducing the environmental impact and pollution are actually higher than paying fines. Increasing environmental fines will stimulate the implementation of environmental and forest law. The data for cost/benefit analysis of environmental impact reduction were calculated based upon Onega LDK information.

Protection of soil and water resources during harvesting operations is one of the key issues of responsible forest management. The level of impact and damage to soils and water after typical harvesting operations is extremely high. Unfortunately fines for such operations are low and do not include full the environmental costs.

The application of soil and water friendly technologies require significant investment, including different forest planning methods, reducing summer cutting operations in favor of winter and the use of modern and well maintained equipment. Under current conditions, investment in the protection of soil and water is not beneficial. Komi model forest provides the data for such an assessment (9).

6.4.4 Cost/Benefits of Improved On-Site Workers Health and Safety, and Improved Wage Policies

Improvements in workers health and safety on harvesting sites is a key requirement for Russian practice to achieve international standards. Requirements include stricter implementation of safety rules and instructions, provision of new safety clothing and equipment, use of safe equipment, the implementation of safe working practice, stricter health and medical control for drivers and harvesting workers, mandatory medical examinations and health passports.

One effect of implementing new working practices is that the level of sickness, injury and fatalities decreases, providing direct benefits to the company. If improvement of health and safety is combined with the technical modernization of equipment, the level of benefits over costs may be significantly high.

The level of remuneration in harvesting operations has always been lower than in wood processing, with working conditions very much harder than in the processing industry. For example, workers may work the entire day in one meter snow in winter, whereas in spring and autumn they are 1 m deep in mud. Low wages exacerbate various social problems including alcoholism and social apathy. Unfortunately trade unions are not active in the harvesting sector and social programs often do not protect workers. An improved wage policy would motivate workers, encourage the interest in their work, result in improved productivity and achieve a decrease in social and family problems.

6.4.5 Cost/Benefits of Participation of Local Communities in Forest Planning and Recognition of Indigenous People Rights

Local communities and the rural population have an intrinsic interest in forest management. As forests are owned by the Federal Government, local interests are often neglected. The only mechanism ensuring consideration of the opinion of the local population is the so-called "second forest inventory" meeting, where representatives of the local population may participate. At the same time, areas rural populations in forest get up to 25-50% of their income from the forest: consuming and selling berries and mushrooms, hunting, collecting fuel wood etc. Logging in areas of high social use can create conflicts with local communities and hunters. Investments in public consultations and conservation of some socially important forests are beneficial in the long term for a company. Weyerhaeuser in the US had the same experience 25 years ago in Oklahoma.

The situation regarding the recognition of the rights of indigenous peoples is very tense in some regions of Russia. For example Udege, Nanays and other tribes are living in the Far Eastern taiga, in areas close to large scale commercial logging. Indigenous peoples are fully dependant on forests and thus large scale commercial activity may destroy their traditional way of life. Indigenous people's rights are protected by laws but in practice harvesting companies use different methods to by-pass these laws. There have been several publicized cases where indigenous peoples have protested against such activities, resulting in the wood products of some companies (e.g. Terney Les) being boycotted.

Taking into account the interest of local communities and indigenous peoples is a relatively minor investment, but returns great benefits such as reducing company risk and improving image and brand name. The costs incurred by Terney Les to solve their conflict with the Udege people were minor compared with the benefits the company received.

6.4.6 Cost/Benefits of Increasing the Quality of Forest Management Planning and Following Legal Requirements

There is a deficit in high quality stems in many Russian forest regions from which to produce quality sawn timber. This is the result of previous logging followed by poor quality reforestation. As a result, many companies must make up their shortfall in quality logs by purchasing from more distant locations. The commercial security of many sawmills is under threat as transport costs increase.

Certification requirements for forest management plans exceed standard Russian requirements. According to Onega LDK, the costs of a new style management plan are three times more than the traditional plan. However these new forest management plans "legalize" CSR innovations, which are potentially subject to fines. It provides the company with long-term sustainable harvesting yield and significantly decreases medium and long-term risks in wood supply. The major economic effects of new management plans are expected in the medium and long-term, while some minor effects are evident within five years.

Certification strongly encourages a responsible approach to fulfilling legal requirements. The company is obliged to have a cutting plan that explicitly includes ecological issues, to make all necessary payments in time and to have no tax debt.

Table 9 illustrates the approximate costs of implementing CSR programs for a typical certified Russian harvesting company. The example covers a concession of 250 000 ha of commercial forests over a 5 year period (short term benefits), and the costs and benefits for this typical company are illustrated in Diagram 14 below.

Table 9. Short term benefits for large Russian company (or group of companies) associated with implementing a typical CSR program, linked with certification

Conditions: forest concession 250 000 ha, number of field workers 20 – 100, 75% mechanical felling, 25% harvester felling. Cost and benefits figures obtained from different sources (see footnotes).

| Main CSR development area | Optimal type of investment (government / corporate) | Amount of associated costs (5 years) | Level of benefit (5 years) | Approximate cost/ benefit balance, not including certification costs |
|---|---|---|---|--|
| 1) Assessment and protection of high conservation value forests | For High conservation value forests, red listed species inventory and conservation – government and corporate sector. For key biotopes et al. – corporate sector. | 25 000 USD ¹ 3 000 USD ² | Mainly not accountable. It is a major expense, but may be converted into benefit if HCVF are economically not accessible, but forced to harvest by forest authorities (very common case in Russia). | Negative, with some exceptions (-15 000 USD) |
| 2) Ecosystem based management | Government-corporate sector. Investments are for better planning (landscape inventory, main succession detection et al.). Minor expenses & significant direct economic benefit after application. | 10 000 USD ³ | Partially accountable or non-accountable. Benefits might be ranged between 25 000 – 50 000 USD ⁴ | Positive (+ 30 000 USD) |

¹ Global Forest Watch Russia.

² Pskov model forest.

³ Pskov model forest.

⁴ Pskov model forest data.

| Main CSR development area | Optimal type of investment (government / corporate) | Amount of associated costs (5 years) | Level of benefit (5 years) | Approximate cost/ benefit balance, not including certification costs |
|---|--|--------------------------------------|---|---|
| 3) Reduction of environmental impact by harvesting companies | Corporate funding. Significant expense and some direct economic benefits, depending on level of environment fines., | 15 000 USD ⁵ | Partially accountable (e.g. reduction in environmental fines). 5 000 USD ⁶ | Negative (if based on current level of environmental fines. (- 10 000 USD) |
| 4) Protection of soil and water resources | Corporate funding. Significant expense and some direct economic benefits, depending on the level of environment fines | 100 000 USD ⁷ | Partially accountable (e.g. reduction in environmental fines). 50 000 USD ⁸ | Negative (if based on current level of environmental fines. (- 50 000 USD) |
| 5) Improvement in worker health and safety at the site level | Corporate funding. Depends on the method of harvesting (manual chainsaw, harvester). | 20 000 USD ⁹ | Partially accountable 30 000 USD +- 10 000 USD depending on harvesting method | Positive under manual chainsaw method, and very positive under harvester method. 10 000 USD |
| 6) Improvement of wage policy | Corporate funding. Paying on time, level the above average in the region (+500 USD pp/year), Indirect benefits (harvesters), expenses (manual harvesting). | 25 000 - 250 000 USD ¹⁰ | Partially accountable (higher motivation and productivity) 50 000 USD – 300 000 USD ¹¹ | Broad range of cost benefits – from negative (- 25 000 USD) to positive (+ 50 000 USD). Average +30 000 USD |
| 7) Participation of local communities in forest management planning | Element of law enforcement. Corporate funding. Minor expenses, indirect benefits | 5000 USD ¹² | Partially accountable. Avoiding conflicts (+ for image and brand name) 10 000 USD ¹³ | Positive (+5 000 USD) |

⁵ Interview with Onega Les.

⁶ Authors' calculation based on state statistics.

⁷ Komi model forest interview.

⁸ Komi model forest data.

⁹ Interview with Onega Les, TACIS Karelia project data.

¹⁰ Authors' calculation.

¹¹ Interview with companies, forest trade union data.

¹² Pskov model forest data.

¹³ Pskov model forest data.

| Main CSR development area | Optimal type of investment (government / corporate) | Amount of associated costs (5 years) | Level of benefit (5 years) | Approximate cost/ benefit balance, not including certification costs |
|---|---|--------------------------------------|--|--|
| 8) Recognition of indigenous people rights | Element of law enforcement. Corporate funding. Minor expenses, indirect benefits. Example of Terney Les in the Russian Far East | 30 000 USD ¹⁴ | Partially accountable. Avoiding conflicts (+ for image and brand name) 50 000 USD ¹⁵ | Positive (+20 000 USD) |
| 9) Increasing quality of forest management planning, including monitoring and verification of long-term sustainability of harvesting volume | Strategic planning. Corporate funding. Significant reduction in corporate risks. Current expenses, long-term benefits. | 20 000 USD ¹⁶ | Mainly accountable. Major effect normally after 5 year range (20 years and more). Security of timber supply and economic security of company. 5000 USD ¹⁷ | Generally negative (for 5 year period), but positive in case company is going for IPO, negotiate investments etc (-15 000 USD) |
| 10) Improving respect for legal requirements, in addition to paying taxes on time | Responsibility of company. Corporate funding. Reducing risks. Might be cost or benefits, depending on region | 100 000 USD ¹⁸ | Partially accountable. Reducing fines, "administrative" payments, corruption attempts etc. (approx. 80 000 USD ¹⁹). Highest risk – lose a leasing agreement due to bankruptcy. | Negative for 5 years period, but positive in mid and long-term. (-20 000 USD) |
| Total | | | | -20 000 USD |

The cost of certification for a 300 000 ha concession is estimated as a loss of 150 000 USD over 5 years (10 US cents/ha/year).

¹⁴ WWF Russia case study Ternei Les. WWF Canada data.

¹⁵ Author estimates, using Canadian statistics.

¹⁶ Pskov model forest data.

¹⁷ Pskov model forest data.

¹⁸ Authors' calculation based on FFS data on illegal logging, fines et al.

¹⁹ Authors' estimation.

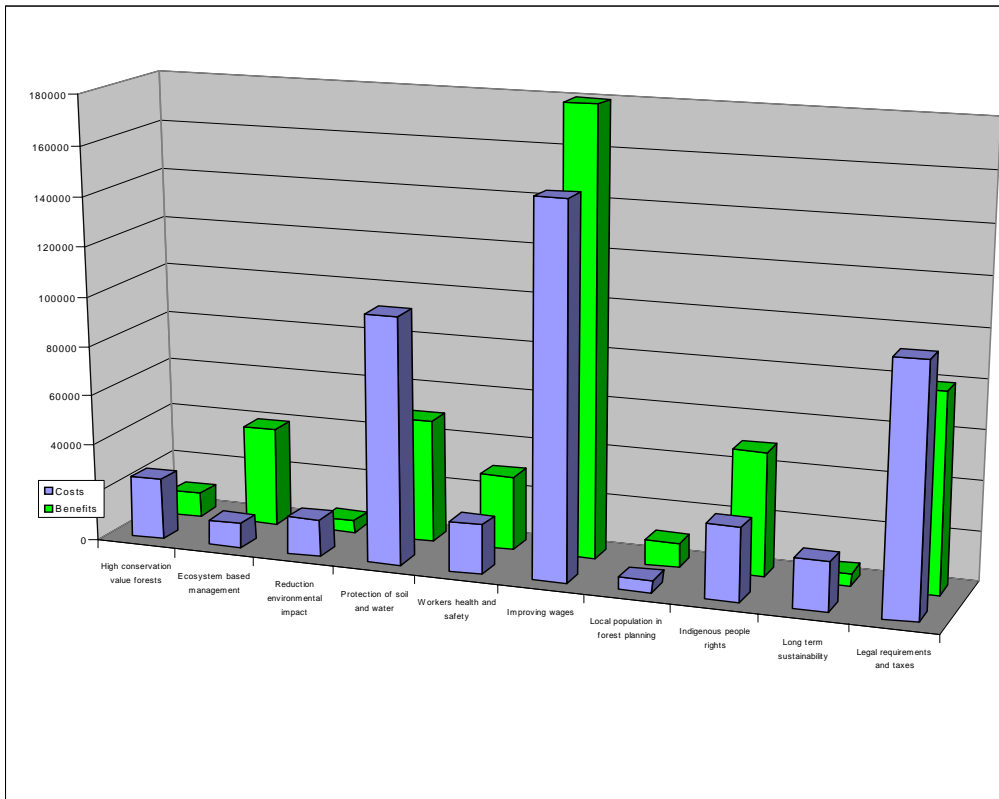
This calculation is one of the first attempts to assess the costs of CSR in forest management in the Russian forest sector. The main difficulty is that there is no method to account for many operations, forest services and social aspects. The methods and precision of the assessment is the subject of further refinement and in individual cases results might be different from that shown in Table 9. However the authors feel that such an assessment provides an opportunity to assess on-going CSR processes and provide recommendations to stakeholders, at least on a qualitative level.

For a typical certified Russian logging company (characterized above) expenditure in the main CSR development areas over a 5 year period exceed the potential benefits by approximately 5-7% without certification costs, and up to 30% if certification costs are included. Application of this method for individual companies may result in different conclusions when one takes into account the large variability in technical and geographical conditions under which Russian companies operate.

The other outputs of the table are:

- 1) Where companies apply modern harvesting technologies (e.g. harvesters and forwarder chains), the cost/benefits of CSR in harvesting are positive.
- 2) The highest negative cost/benefit ratio is associated with the protection of soil and water resources, assessment of high conservation value forests, improving the legal aspect of forest management and increasing the quality of forest planning.
- 3) The highest positive cost/benefit ratio is associated with implementing ecosystem based management, improving wage policy and the recognition of indigenous peoples rights. The last option is valid for the Russian Far East.
- 4) The low cost of natural (forest, soil and water) and human resources, and the low cost of environmental fines are the most discouraging factors in CSR development. Generally, higher natural and human resources costs, and higher environment fines, result in a faster uptake of CSR practices in the forest sector.
- 5) Best international practice shows that governments may share CSR costs with business (High conservation value forests, biodiversity conservation and social aspects.). If Russia develops similar government support to forest industry such as in Finland or Sweden, the costs / benefits of CSR in harvesting will be positive.
- 6) In conditions of non-availability of government programs, it is recommended that the corporate sector initiate partnerships or relevant CSR programs with International programs from the European Union and through IBRD, IFC and EBRD loans.

Diagram 14. Costs & benefits of CSR in forest management



6.5 Investments to Date by the Russian Processors in CSR Programmes

Several of Russia's largest forest companies have recently started implementation of wide-ranging CSR programmes. Such programs are normally certified by ISO9001 (first step), ISO14001 (second step) - for Pulp and Paper and other processing companies, FSC – for forest management and harvesting operations, and OHSAS (health and safety programs), EMAS (for wood tracing systems).

A good example of an ambitious CSR program is demonstrated by Ilim Pulp Enterprise below.

Box 7. Ilim Pulp current CSR programs

- OHSAS 1800 (professional security, workers health and safety) for all pulp and paper mills (Bratsk, Ust-Ilimsk, Kotlas)
- ISO 9001 and 14001 (management and environmental management systems) for all Pulp and Paper mills (Bratsk, Ust-Ilimsk, Kotlas)
- FSC certification of forest management currently in Siberia (IlimSibles), and next year for Archangelsk (IlimSeverles)
- Recent publication of their annual report according to the guidelines of the Global Reporting Initiative in sustainable development (GRI)

- Implementation of several modernization programs in the field of reducing atmospheric emissions (Kotlas, Ust-Ilimsk). I
- Participation in illegal logging prevention programs (Irkutsk) and log-tracking programs (Kotlas).
- Programs of fire fighting and forest regeneration previously carried out by the Government (leskhozes).

Although more modest than Ilim Pulp's current CSR programmes, JSC Volga has been running CSR programmes since 1995 and currently leads the Eco-rating with EcoA+ . Kartontara, under the same ownership, also has an EcoA+ rating.

Interest in CSR started with the desire to start exports to Germany and a \$150 million IFC syndicated loan back in 1995 for modernization of the plant. The mill developed and signed an environmental action plan with the Nizhny Novgorod Nature Protection committee that is revised annually and still in operation 10 years later. The mill estimates that it has invested \$15 million USD in CSR programmes in the last 10 years.

CSR milestones from Volga include:

- closure of the Sulphite pulp plant, removing the largest point source of pollution in the Oblast
- replacement of all the aerators in the biological water treatment plant (which also treats municipal waste)
- first FSC certification in the Russian pulp and paper industry
- first publication of a labor safety chain from forest to customer

Volga's position as a green leader in the Russian industry is the result of ten years of effort. However the competition is catching up, with Ilim Pulp, Mondi Business Paper Syktyvkar, International Paper, Archangelsk PPM and JSC Solikamsk all active with CSR programs where Volga was, for a long-time, alone in Russia.

6.6 Upgrading Processing to Reach International CSR Levels

Forest management certification or other CSR programmes (ISO9001, ISO14001, Eco-rating or membership of the Association of environmentally responsible forest companies) does not directly impact upon the processing of forest products. The main CSR mechanism in wood processing is the **social policy** aimed ensuring a good level of workers health and safety, competitive salary and rights protection.

To ensure a competitive level of wages in addition to good health and safety, companies are increasing investments in training, safety equipment, a better health system (e.g. requirements for medical inspection and the establishment of shelters and canteens for workers). Other CSR mechanisms, such as ISO14001 certification or eco-ratings, support the decrease in a companies environmental impact and the efficient use of water and energy resources. This stipulates investment in the modern technologies required to purify effluents and drainage water, to decrease the consumption of energy and water and the full and efficient use of residuals (sawdust, bark etc.).

In practice, the reduction in aerial emissions and effluent into water sources, and the use of energy efficient technologies is economically beneficial to forest companies. Recent

mechanisms, such as the Kyoto protocol, offer the possibility of joint venture projects based upon the carbon credit trade. CSR is a catalyst in this process.

Tables 10 and 11 illustrate differences in current Russian value added processing in comparison to international best practice.

Table 10. Comparison of Russian sawmill operational efficiency in traditional, international best practice and post certification Russia

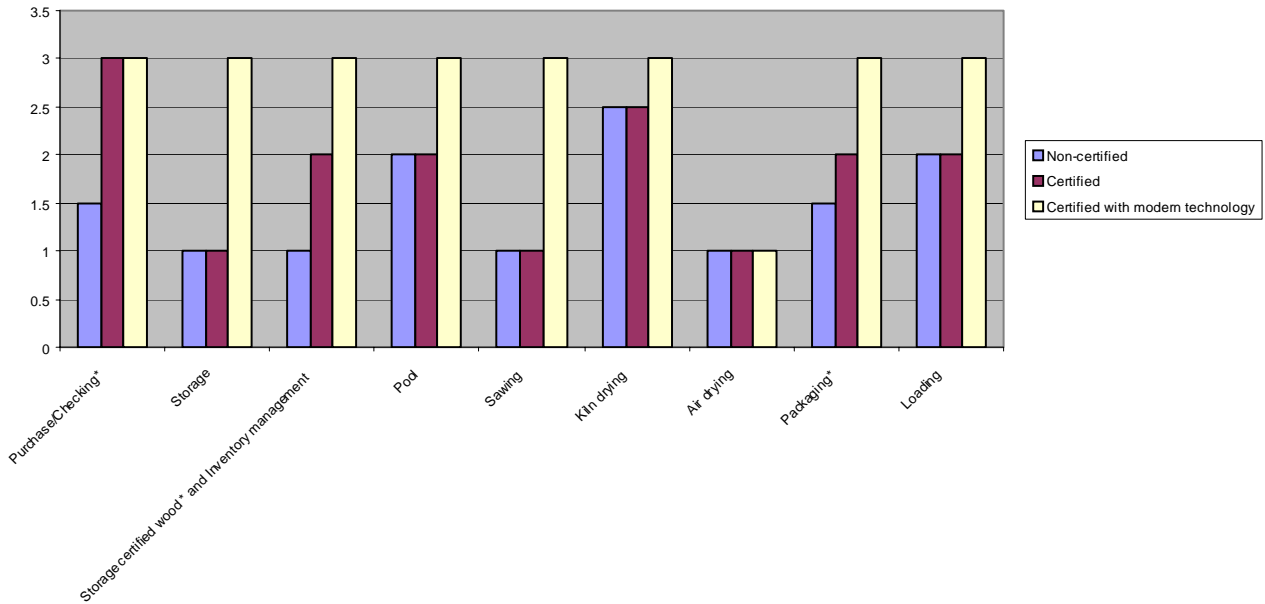
| Type of activity | Content | Efficiency | International Practice | After Certification |
|---|--|-------------|------------------------|---------------------|
| Purchase/Checking* | Verifying quantity, quality and documents | Medium-low | High | High |
| Storage | Handling, piling | Low | high | low |
| Storage of certified wood * Inventory management | Physical separation of certified wood from non-certified | Low | high | medium |
| Wet storage of timber | Debarking and handling in hot water (softening) | Medium | high | medium |
| Sawing | Mechanical sorting by diameter, mechanical sawing, mechanical sorting by saw logs categories | low | high | low |
| Kiln drying | Dry saw logs in special kilns (heating) | Medium-high | high | Medium-high |
| Air drying | Dry saw logs in the air | Low | low | low |
| Packaging* | Package saw logs in piles | Medium-low | high | medium |
| Loading | Mechanical loading onto containers, wagons, trucks | Medium | high | medium |

Table 11. Comparison between Russian pulp and paper operational efficiency, traditional, international systems, international best practice and post certification Russia

| Type of activity | Content | Traditional Efficiency | International Practice | After Certification |
|---|--|------------------------|------------------------|---------------------|
| Purchase/Checking* | Verification of quantity, quality and documents | Low | High | High |
| Storage | Handling, stacking | Low | High | Low |
| Storage of certified wood * Inventory management | Physical separation of certified wood from non-certified | Low | High | Medium |
| Processing | Conversion to paper | Medium | High | Medium |
| Packaging* | Inc. CoC labelling | Low | High | Low |
| Warehouse | Reel storage | Medium-high | High | Medium-high |
| Logistics* | CoC | Low | High | Low |

Adoption of certification has a limited direct influence upon various aspects of wood processing, such as improved accountability within the supply chain. Certification does, however, encourage better processing of saw logs as certified products are intended for markets with higher quality requirements.

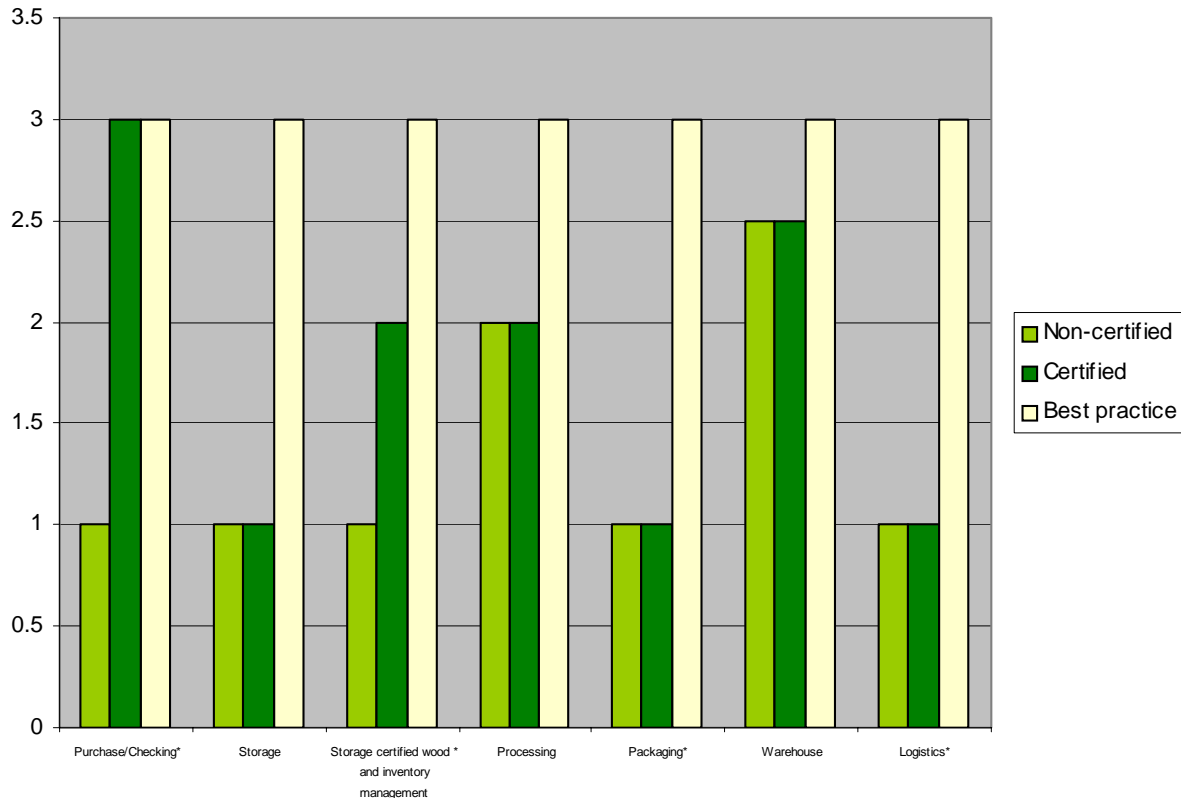
Diagram 15. Level of investment / efficiency in sawmill operations



Certified sawmill operations may be seen as an intermediary step between traditional Russian harvesting operations and best international practices. The overall level of investment / efficiency in non-certified harvesting operations is 13.5, certified – 16.5 and best practice – 25. According to our model, certification provides a rather modest increase in sawmill operational efficiency. To achieve efficiency levels of international best practice would also require investment in modern equipment and new technologies.

Adoption of forest certification has a limited impact on the overall efficiency of pulp and paper production. Certified pulp and paper mill operations may be seen as an intermediary step between traditional Russian harvesting operations and best international practices. The overall level of investment / efficiency in non-certified harvesting operations is 9.5, certified – 12.5 and best practice – 21. According to our model, certification provides a rather modest increase in pulp and paper operational efficiency. To achieve efficiency levels of international best practice would also require investment in modern equipment and new technologies.

Diagram 16. Level of investment/efficiency in pulp mill operations



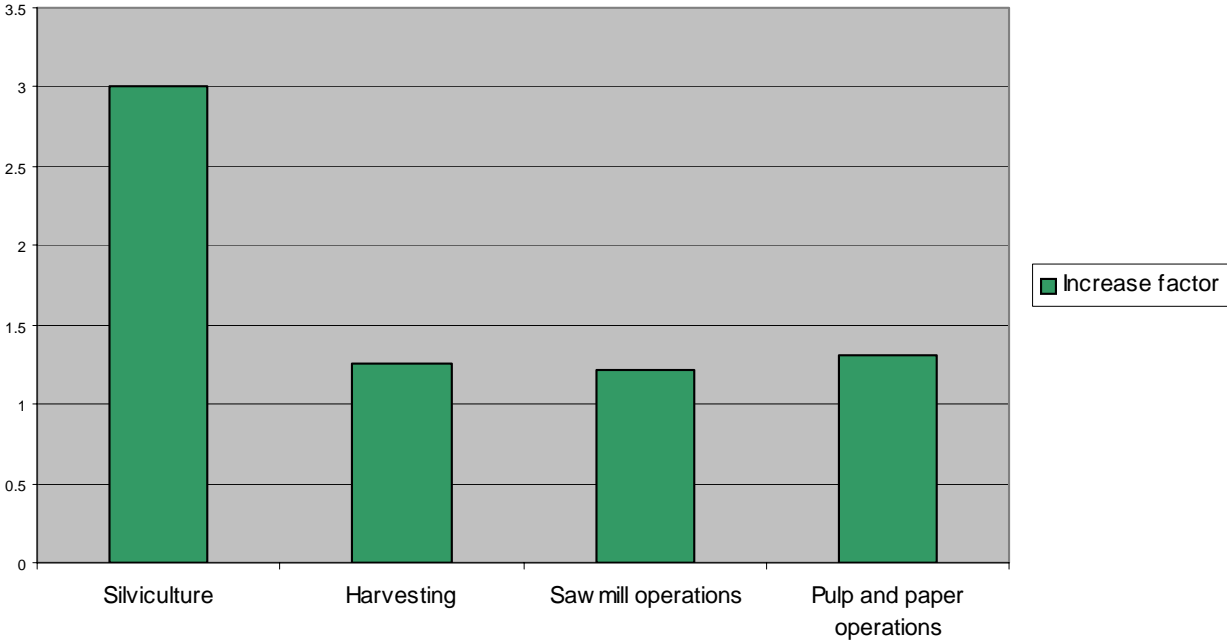
Forest management and chain-of-custody certification cannot be seen as a single CSR instrument in the processing of forest products. The combination of FM certification, ISO14001 (environmental management system) and eco-ratings can be recommended.

- 1) Certification provides a rather modest increase in sawmill and pulp & paper mill operational efficiency. To achieve efficiency levels of international best practice would entail investment in modern equipment and new technologies.
- 2) The key areas of CSR related investment within the processing of forest product may be identified as:
 - Reduction in the consumption of resources (water, energy) and use of energy and water efficient technologies.
 - Reduction in the environmental impact and primary pollution of air and water, and the use of modern purification technologies and equipment.
 - Responsible health and safety policy including the use of modern protection gear and training programs.
 - Competitive salaries and other social benefits.

Investments in such programs may be considered as a vital improvement in both the image and reputation of a company, and contribute to a reduction in corporate risk. However there is no direct link between CSR and the technological upgrade of forest processing.

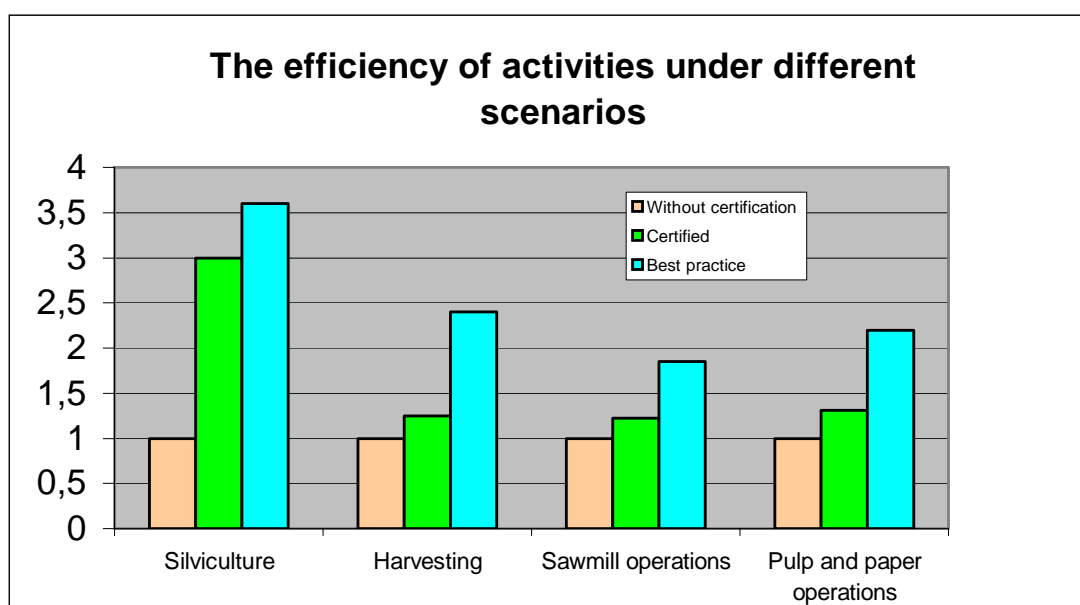
The overall effect of certification as a tool for improving forest management efficiency is illustrated in Diagram 17 below. The greatest effect is in silviculture, whereas the effect of certification in harvesting, sawmill and pulp & paper operations is modest. In order to reach the best international level in each element of the forest value chain, additional instruments should be involved. These include new forest management planning methods, forest road building, site specific harvesting operations, more flexible forest management rules, technological innovations and equipment modernization in each segment of the forest value chain.

Diagram 17. Overall effect of forest certification



The comparison of non-certified, certified and best practice level of efficiency is done below (Diagram 18).

Diagram 18. Comparison of non-certified, certified and best practices



It is possible to propose that the certification bring the level of certified silviculture almost on the level of best practice. That can be explained by the fact, that silviculture does not require significant investments, and may be improved mainly by improving level of planning and execution of activities.

In harvesting, sawmill and pulp and paper operation certification represents mainly a step forward toward best international practice. This step is important, as it trigger the whole development of value chain in direction of sustainability and transparency of operations, stimulating investment process as well.

6.7 Investment in Marketing and Retail of Certified Forest Products to Ensure the Economic Benefits of Certification

Marketing and retailing of CSR products is not an easy and obvious task. The possession of certified products does not automatically lead to the “tornado” sale of such products and cash flowing into the pockets of shareholders. The marketing and retail of certified forest products should be creative, taking into account existing market niches and buyer demand. The Global forest and trade network (www.gftn.org), Tropical forest trust (www.tropicalforesttrust.org), Metafor (www.metafor.com), EPERT are organizations, which help to develop the certified forest product trade. Their activities might be streamlined to specific sectors and countries.

There are, however, good examples of the creative marketing of certified products. For example the well-known Swedish forest product company SCA (see Box 8) created a tenfold increase in their sales of certified products within a 2 year period.

Box 8. SCA marketing policy in certified forest products (www.sca.com)

SCA was one of the first forest companies to proactively work with WWF and other NGOs in order to produce the first national Forest Stewardship Council (FSC) certification standard. All forests managed by SCA are FSC-certified. The use of new FSC CoC standards led to a dramatic increase in the output of FSC certified products in Sweden and will also enable a number of suppliers that hitherto have not had the capacity to produce FSC-certified products, to do so. New chain-of-custody rules are coming into force, with the result that more certified products will become available, which will in turn increase interest in these products. SCA welcomes more suppliers of certified products, since this will increase customer confidence in the scheme and give consumers better opportunities to make their views known by choosing products based on responsible forest management.

The new CoC standard approved by the Board of FSC International in October 2004 has been adopted by SCA's Swedish saw mills, pulp plant and paper mill. Under the new standard, SCA's output of FSC-certified sawn timber has **increased from 2–3% of total production to closer to 20%** and is steadily growing. About 10% of LWC production was sold as FSC-certified paper and demand is growing. SCA produced as much FSC-certified pulp at the Östrand pulp mill as the old CoC standard allowed. The Environment Management Network provides a focus in SCA's operations in Europe for the various linked issues described here, management systems and auditing, environmental labeling, LCA methodologies and environmental standardization. SCA has created a central audit system in its Hygiene Products business area to verify the application of SCA's environmental criteria throughout its operations.

SCA is putting procedures in place to ensure that wood- and fresh-fiber based materials used in its processes do not derive from controversial wood sources. SCA will assess its suppliers and require them to provide verification so that customers may be assured that their expectations regarding the environmental qualities of SCA's products are fulfilled. Wood from controversial sources is defined as: illegally logged wood, wood from areas where human rights or the traditional rights of indigenous peoples are being violated, and wood from forests with a high conservation value. SCA will also, where deemed necessary, audit its suppliers in order to get full information.

One Russian FSC certified company, operating in Archanglelsk, was able to increase its sales two-fold during one year due to a contract with a single German DIY chain which bought only FSC certified production (see 3.2.4).

An investment into training programmes for sales and marketing staff is needed to ensure replication of the best results in the marketing of certified products.

6.8 Summary of Investment Required to Reach CSR in Forest Sector

Silviculture

Certification provides a significant boost for improving silvicultural operations in Russia. Best international practice in forest management however can only be achieved through a combination of CSR, modern policies and improvements in legislation and governance. Investment into new forest management (FM) plans should be considered very important. Companies should receive the necessary training in forest protection from government organizations

Tending, along with commercial thinning and associated road construction, will be key elements in responsible silviculture. Development of the regulations for commercial thinning is one of the key requirements for the implementation of silviculture and forest management in Russia. Investment in road construction, wide scale training in the art of tending (pre-commercial thinning/re-spacing) and commercial thinning are also very important.

Investments in silvicultural improvements are only reasonable if the leaseholder has overall responsibility of the whole forest management cycle.

Harvesting

Certification does not necessarily create a significant change in the character of tree felling, extraction and delimiting, sorting, cross-cutting or delivery. Investments in improving such operations have a purely economic sense, and may be implemented within or without a CSR program.

Certification provides a modest increase in harvesting operational efficiency if it is not complemented by the use of modern equipment, intensive road building, new harvesting approaches (emphasis on thinning instead of clear cut) and more flexible harvesting rules. Best international practice in forest management can be achieved only through a combination of CSR and innovative approaches to forest planning systems and flexible harvesting rules. Improvement of the road system and infrastructure on harvesting sites is one of the key elements in reaching international best practice.

International best practice shows that governments may share CSR costs with business (High conservation value forests, biodiversity conservation, social aspects). If Russia demonstrates similar government support, such as in Finland or Sweden, the costs / benefits of CSR in harvesting will be positive.

Wood processing, sawmill and pulp and paper mill operations

The adoption of forest certification creates only limited improvements in wood processing. The main improvement in sawmill operations is a better accountability within the supply chain. Certification does encourage better processing of saw logs as certified products are intended for markets with higher quality demands.

Certification provides a rather modest increase in pulp and paper operations if they are not complemented by the use of modern equipment and new technologies.

7. Application of CSR Experience in Other Sectors of the National Economy of Russia

Internationally, the forest sector was the first major natural resources sector to embrace the concept of certifying sustainable management. While other sectors addressed elements of sustainability (fair trade in coffee, palm oil, soy, cotton), or wider aspects (organic agricultural production) forest certification remains the leader in the development

of this approach, which is based upon economic, social and environmental factors. There is some evidence that sustainability initiatives are emerging in the Russian oil and gas sector, mining, marine, agriculture and freshwater sector. (Result of Internet search – see list of web-sites). The main elements that forest certification can contribute to emerging sustainability initiatives are:

- 1) Need of standards, and balanced standard setting process
- 2) Accreditation of standards, national initiatives, certification bodies
- 3) Certification procedures, based on International standard setting bodies requirements
- 4) Chain-of-custody and claims
- 5) Multiple certification schemes and harmonization (3)

Application of specific CSR experiences within the forest sector into other sectors of the Russian National economy is possible if the following conditions are met:

- 1) The sector belongs to natural resource management and has an export orientation
- 2) There are on-going CSR initiatives within the sector and these have Government support
- 3) There are markets, or potential markets, for CSR products and widely recognized certification organizations

Considering the potential for the development of certification in others sectors, it is important to consider that the success of CSR in the forest sector was due to the following factors:

- 1) The role of civil society and non-governmental organizations in the forest product trade was, and is, very important due to the high level of awareness focused upon the tropical forest problems and deforestation, illegal logging, corruption in the forest sector and the logging of high conservation value forests. They pushed importers of forest products in the developed economies to take the issue seriously (section 3.3.1). The demand from purchasers of wood products for transparency, and their real exclusion of non-performing companies and countries has driven the response of from the forest industry
- 2) The market for forest products, unlike oil and gas, metals or textiles, is competitive and non- monopolized. Forest trade is de-regulated globally. Strong players saw forest certification as an additional competitive tool giving them market advantages to their companies.

An analysis of internet searches, interviews with NGO's and scientific institutions shows that three sectors of Russian natural resource management have elements of awareness, experience, on-going projects and dealings relating to CSR. Processes in Russian oil and gas, agriculture and marine sectors are the most relevant. Additionally, we have been informed that there is a potential in the Russian mining sector to develop CSR initiatives.

7.1 CSR Potential in the Russian Oil and Gas Sector

The oil and gas sector has always been seen as a Russian strategic interest as it accounts for 60% of Russian GDP. The bulk of oil and gas is exported to the European Union and, recently, to the US and China.

There is a growing awareness in the World concerning the environmental and social effects of oil and gas extraction, transportation, corruption and non-transparency, especially in developing countries.

There are several examples of responsible approaches in the Oil and Gas sector. A number of organizations, e.g. World Business Council on Sustainable Development (WBCSD), Energy Stewardship Alliance (www.anwr.org), are now engaging in developing standards and monitoring/certification procedures in the sector. There is no globally recognized organization dealing with Oil and Gas, CSR issues and therefore no "CSR-label" is promoted on the international market. Unlike the forest sector, it is difficult to separate different sources in the pipeline. Also the gas industry, certainly in Russia, is predominately state owned and competition is low.

The oil sector is not as heavily monopolized as Gas. There are a number of company initiatives (British Petroleum, Shell etc.) to start CSR programs. But because there is no strict external verification, many programs might have a "green-washing" character.

In Russia, CSR performance in oil and gas companies is far from the best international requirements. Attempts by NGO's to present the negative side of oil and gas extraction and transportation were often blocked by officials with a few successful exceptions such as the Greenpeace action against oil spills in the Komi republic in the beginning of the year 2000. The information blockade around oil and gas in Russia was also due to the links of oil and gas managers with politicians. In the current situation, partially under the impact of the Yukos case and partially as the result of NGO's campaign to protect the spawn of rare grey whales in the sea of Okhotsk near the planned oil platforms (project Sakhalin-1, managed by Sakhalin Energy), the Russian Government has started to reconsider its policy.

An assessment of by NGO's shows that in many extraction areas, rivers and lakes are polluted by oil and drilling products, the traditional lifestyle of indigenous people is disturbed without adequate compensation and oil spills are more frequent than reported.

A group of Russian NGO's (WWF, Greenpeace, Ecojuris, regional NGO "Monitoring Baltic pipeline system" et al) prepared a list of the basic requirements for responsible oil extraction and trade, largely based on the experience in the Russian forest sector (Appendix 4).

The main requirements were proposed as:

- a. Environmental policy

- b. Law compliance
- c. Exclusion of activity in territories and aquatories of high value
- d. Environmental impact assessment (EIA) and ecological expertise
- e. Transparency of ecological information
- f. Damage and losses compensation
- g. Prevention and response for oil and oil products spills
- h. Prevention and minimization of negative impact on environment
- i. Environment-oriented initiatives
- j. Greenhouse gas discharges

Box 9. Sakhalin oil and gas project and NGO's position

http://www.wwf.ru/about/what_we_do/oil/eng/)

Sakhalin II oil and gas development project:

Phase 2 of Sakhalin II is a USD 10 billion oil and gas development in Far East Russia. The *Sakhalin Energy Consortium* is led by *Shell*, with *Mitsubishi* and *Mitsui* as the other key shareholders.

The consortium has applied for project finance from the European Bank for Reconstruction and Development, the US Export-Import Bank, and the Japanese Bank for International Co-operation. But after three years the potential lenders are still not satisfied with the environmental credentials of the project.

WWF and its partners have continued to raise issues with the financial institutions. There have also been demonstrations at Credit Suisse First Boston, the advisors to the project.

These requirements can be considered to be the prototype of an Oil and Gas Stewardship Council ones.

Some responsible companies (TNK-BP, Russia's 3rd largest oil and gas operator, owned by a consortium British Petroleum – Alpha group) started a dialogue with NGO's trying to define basic responsible practices. It was recently announced that TNK-BP is starting a joint project with NGO's, including World Resource Institute (WRI) to test new principles in an oil project in Russia. TNK has published its CSR principles on <http://www.tnk-bp.com/social/external/>.

Conclusions:

- 1) The absence of an Oil and Gas globally recognized CSR organization and CSR label, is the main constraint to the development of credible certification in the oil and gas sector.
- 2) Development of responsible oil and gas extraction & trade largely depends upon the position of governments in the developed countries. Particularly important is the position of European Union members and Global NGO's, which are currently not very active in the sector.

- 3) The prototype of Oil and Gas standards exists in Russia, despite the fact that the basic standard-setting process is not yet in place
- 4) Technically it would be possible to show forest sector experience in a standard setting, development of chain-of-custody and certification and accreditation procedures needed for credible certification in the sector.

7.2 CSR Initiatives in Marine Sector

CSR development in the Marine sector, similar to the Forest sector, is driven by NGO's and responsible manufacturers, such as Unilever. In a bid to reverse the continued decline in the world's fisheries, the MSC seeks to harness consumer purchasing power to generate change and promote environmentally responsible stewardship over the world's most important renewable food source.

The growth of MSC was not as fast as the Forest Stewardship Council. This was due to lower global awareness of fishery problems and technical difficulties in auditing on ships. At present, there are 14 fisheries certified worldwide and 18 in the process of certification. This represents only a small percentage of the Global fishery resource. Another initiative was undertaken by the FAO to establish a fisheries certification scheme however that, up until now, has not proven successful.

The situation in the Russian marine sector is considered by many experts as terrible, since the government lost control over fish extraction and a resulting boom in illegal activities has resulted in the exploitation of 2-3 times higher than the annual allowable catch (AAC). The exploitation of the Kamchatka crab is a good example, with 10 times more crab extracted than official norms permitted. Russian ships export valuable products to Japan. Some NGO's (WWF, Salmon network, PERC) are campaigning against such destructive practices.

Two Russian companies have declared that they are going to certify their fisheries in Russia (source WWF Russia). These companies are located in North-West Russia (Bering and White Sea) and are oriented to the West European market.

If the certification of these companies will end with the award of an MSC certificate, that could trigger development of a larger CSR movement in the sector. The Government is generally positive to MSC certification but is preoccupied in increasing its control over marine products and trade.

Conclusions:

- 1) MSC certification is ready, and has the necessary mechanisms for the certification of sustainable fishery management. No major technical support for MSC is required.
- 2) There are of MSC certification prospects in Russia, especially in North-West Russia and to some extent, the Bering Sea.

- 3) Experience from the forest sector may remove some psychological barriers in developing certification in fisheries
- 4) It is important that the Government agency (State Agency of Fishery) is properly informed about similar processes in the forest sector, and will support the first CSR practices of Russian marine companies.
- 5) A CSR conference, covering forest and marine companies, would be very useful in promoting CSR and certification in the Marine Sector. The World Bank group, together with NGO's (WWF) can play a role in this process.

7.3 CSR Initiatives in Agricultural Sector

Eco-products appeared in Western Europe during the 1990s when the market for traditional consumer goods became saturated. For many manufacturers the transition to bio-production was the only opportunity to enter a niche free of competitors and therefore more profitable. However, it is much more difficult to set up bio-production than traditional manufacturing. Thus, for example, farmers require at least three years to become organic, the period of time during which the mineral fertilizers applied in traditional agriculture leave the soil. Furthermore, producers cannot expect quick returns from organic production. During the first few years, crop yield tends to decline. Since finished natural products, as a rule, are more labor intensive, their production takes longer and the product itself is more expensive (prices are 50-80% higher). In addition, bio-production assumes tighter quality control at every stage of production. Nonetheless, Western retailers became immediately interested in ecologically pure products. Organic sections appeared in supermarkets and specialized organic and natural food stores began to open. At present, there are about 150 such markets per one million inhabitants in Europe.

Today, the natural products market in European countries is estimated at \$25 billion (about 2-3% of the European consumer market as a whole) and has had the highest growth rates. The market for natural food products exceeds the market for certified forests products.

Russia has good opportunities for organic agriculture since, for economic reasons, the use of mineral fertilizers was either decreased or stopped and replaced with organic fertilizers. According to Ministry of Agriculture statistics, no more than 8 kg of mineral fertilizer per hectare have been used whereas, under the intensive agriculture currently practiced in the West, the average runs about 320 kg. According to Timiryazev Agricultural Academy data, 70% of Russian agricultural enterprises haven't used pesticides or herbicides at all over the last few years due to the shortage of working capital. Thus, about two thirds of cultivated areas in Russia could be used for organic farming right now.

Secondly, Russia has an extremely organic-friendly labor force. In Russia, the rural population accounts for 25% of the total population. In many European countries, it does not exceed 2-3%. "Only 16% of the rural population is permanently employed in Russia." For these reasons, organic farming in Russia could be even cheaper than traditional agriculture. The low labor costs in combination with the fertilizer factor can provide highly competitive organic production, which may occupy many niches in "organic" markets.

Organic agriculture in Russia has already achieved good political support. For example the chairman of the Federation Council (Upper Chamber of Russian Parliament) Sergei Mironov recently declared in his report to the session of experts entitled "Better quality of life and ecological security in Russian regions" on 5 May 2005, that Russia has great possibilities to become the world leader in safe ecological production.

Natural products also have a Russian domestic market. The Russian company Grunwald opened the first bio-supermarket in Russia. They are actually selling natural products - furniture, groceries, and cosmetics - from European manufacturers. Another store selling natural products is Stockmann, oriented towards wealthy consumers.

Despite these prospects, only a couple of foreign organic companies are present in the Russian market, and their business comes from exporting Russian wild fruits and plants, such as cranberries, buckwheat, and mushrooms, to developed countries. Foreign companies are afraid to engage in more technologically sophisticated production in Russia because of the general backwardness of Russian agriculture, specifically in the mentality of Russian farm workers.

Two certification companies (Econiva) and Bisolbi-Inter have started projects in Russia, aimed at obtaining certification from IFOAM – International Organization of Organic Agriculture Movement (www.ifoam.org).

The European Union currently implements very strong measures to protect its farmers and its agricultural traditions. Since the Russian Government aims to increase production and exports of agricultural production to Europe, the organic certification of export production can be viewed as a potential market penetration mechanism.

Conclusions:

- 1) The agricultural sector in Russia has the best prospect for the development of CSR programs and certification, aside from the forest sector.
- 2) Agriculture and forestry are very closely linked and have similar problems and forestry CSR solutions may be adapted to agricultural sector, where there also exist internationally recognized labels for organic products (e.g. Soil Association certify both agricultural and forestry products)
- 3) As in the forest sector, there is a number of strong players (investors) in agriculture interested in the market benefits from CSR.
- 4) It is strongly recommended to disseminate the lessons learned from the forest sector, in its response to market driven CSR demands, to the agricultural sector by organizing an exchange of information between Government and corporate players.
- 5) The public sector could create a basis to facilitate implementation of international standards and labels for Russian agricultural production.

7.4 CSR Emerging Initiatives in Mining Sector

There is a surprisingly high number of different CSR initiatives in the global mining sector, That includes, among other, the following:

Table 12. CSR initiatives

| International CSR Initiatives | Initiator | Scope |
|---|---|--|
| <u>Global Compact*</u> | United Nations | Ten principles. Annual reporting on progress required. |
| International Cyanide Management Code* | Six gold mining companies and producers; code developed with United Nations, non-governmental organizations (NGOs), labor and financial institution participation | Best practices and management standards for cyanide used in gold mining. Companies developing implementation and certification process. |
| Mine Certification Evaluation Project* | World Wildlife Fund, Oxfam Community Aid Abroad, other NGOs, organizations and mining companies | Research project to investigate potential for certification of mining industry based on the ten principles and 46 elements of the International Council on Mining and Metals. Initially focused on Australia. Draft criteria developed, being tested at five sites in Australia and one in Brazil. |
| Voluntary Principles on Security and Human Rights | USA and U.K. governments, NGOs and mining companies | Program being implemented. |
| Mining Industry Initiatives | Sponsor | Scope |
| <u>Global Reporting Initiative*</u> | GRI and International Council on Mining and Metals (ICMM) companies | Developed mining sector sustainability reporting indicators (Mining and Metals Sector Supplement). Closely linked to ICMM charter principles. Indicators developed by multi-stakeholder taskforce. |
| Towards Sustainable Mining* | Mining Association of Canada and member companies | Sustainability performance standards. Reporting required. |

| | | |
|--|---|---|
| International Council on Mining and Metals (ICMM) Sustainable Development Charter* | ICMM | Commitment to ten high-level principles covering ethics, integrating sustainable development, human rights, risk management, health and safety, environmental performance, biodiversity and land use, product stewardship, community development and disclosure. |
| Protected Areas* | ICMM and International Union for the Conservation of Nature | Agreement not to mine or explore in UNESCO designated world heritage sites. Plans to discuss other protected areas and biodiversity. |
| Community Development Good Practice Tools | ICMM and World Bank | Community Development Best Practice Guidance. |
| Financial Sector Initiatives | Sponsor | Scope |
| World Bank - IFC Performance Standards | World Bank and International Finance Corporation | Following performance standards: 1. Social and environmental assessment 2. Labor and working conditions 3. Pollution prevention 4. Community health and safety 5. Land acquisition and involuntary resettlement 6. Conservation and biodiversity 7. Indigenous peoples 8. Cultural heritage 9. Management systems. |

One of the recent most prominent initiatives is the Intergovernmental Forum on Sustainable Development for Mining, Minerals and Metals, organised very recently (November 2005). It includes more than 30 countries of the World. The Forum is one of a initiatives aimed at promoting the implementation of the Johannesburg World Summit Plan of Implementation. Co-sponsored by South Africa and Canada, it was specifically designed to fulfil the priorities for the mining, minerals and metals sector as identified in the Johannesburg World Summit Plan of Implementation. Paragraph 46 of the Plan identifies a number of priorities for the sector.

The Global Dialogue was the initial phase of the Forum aimed to involve national Governments with an interest in the mining, minerals and metals sector. Fifty-three countries participated in the Global Dialogue. Together, they decided that the objectives of the Global Dialogue would be best achieved through the establishment of an Intergovernmental Forum for the mining, minerals and metals sector.

Two preparatory meetings of the Global Dialogue were held in Geneva in 2003 and 2004 to negotiate and prepare the launch of the proposed Forum. The outcomes of these

meetings include the Terms of Reference, Draft Rules of Procedures and Guidance for the Programme of Work.

In February 2005, the Intergovernmental Forum on Mining, Minerals, Metals and Sustainable Development came into effect when twenty-five national governments had confirmed their membership.

Very recently Russian Federation joined the Intergovernmental Forum on Mining, Minerals, Metals. The Minister of Natural resources of Russia Mr Yuri Trutnev wrote the official letter, indicating the will of Russian Federation to join the Forum.

Event it is too early to predict the consequences of that it is possible to propose that Russian government and Ministry of Natural Resources will promote sustainable development in mining sector, thus facilitating, likely, development of CSR in the sector, taking into account that Russia is the major exporter of mining products.

8. Summary

Corporate Social Responsibility is no longer regarded as a Public Relations exercise by International business but has matured into a core business philosophy at the heart of modern corporations.

In the forest sector, forest certification has developed into an international benchmark for CSR in the forest sector. Demand for certified products, especially in the northern consumer markets, is rapidly increasing and has driven the expansion of certification worldwide. Many importers of forest products have a publicized goal of achieving the sourcing of its forest products from certified forests. In addition, Government and Public procurement organizations are beginning to demand legality and CSR from their suppliers. Many investment organizations have started to demand certification as a prerequisite to investment in forest sector projects. International processes (FLEG) and potential forest product trade agreements such as FLEG(T) are designed to rule out trade in illegally sourced forest products and encourage the CSR process.

The combination of these factors is creating a favorable external driving force for CSR and certification in the Russian forest sector which is 70% oriented towards export, with 55% of those exports oriented towards the ecologically sensitive markets of the European Union and North America. The Russian internal market, through some DIY outlets (IKEA, Obi), also shows an interest in CSR products, but on a minor scale.

Certification has become a driving force of best practice in the Russian forest sector. Certification is:

- 1) Sector wide (over 6.3 million Ha of forests are certified by FSC scheme to date, and around 8 million ha are in the process of certification – 12% of commercial forests)
- 2) Transparent (due to publicly available certification reports, three chamber equal weight and stakeholder consultations)
- 3) Aimed at sharing governance (Government and corporate sector partnerships in different areas)
- 4) Targeted at reducing inefficiencies (e.g. legislative barriers)
- 5) Implementing management systems and measures of productivity gains
- 6) Capturing market based benefits (trade in certified products, ethical investments).

The main **environmental effect** of certification according to FSC is the conservation and enhancement of biodiversity. The main **social improvement** of certification under FSC is the implementation of the health and safety guidelines at the site level. The main **economic improvement** effected by certification under FSC is the enhancement of the quality of forest management planning, including appropriate documentation, monitoring and the verification of the long-term sustainability of the actual harvesting volume.

The main non-conformities within the Russian forest sector with international best practice are the low stumpage fees, illegal logging, low fines for environmental damage, logging of high conservation value forests and the low level of health and safety. These issues require immediate attention both from Government and the corporate sector.

Our research identified a number of barriers preventing better integration between CSR practices, law enforcement and state governance. These include:

- 1) Cases of fines levied against responsible companies implementing international best practice in forest management as a result of discrepancies between Russian environmental regulations and international certification standards.
- 2) Inflexibility of state agencies and their non recognition of the market drivers of CSR
- 3) New regulatory instruments, such as FLEG(T), may duplicate administration requirements for responsible forestry companies.

The cost of forest certification is still rather high, and this is especially so for small and medium size businesses. The costs of certification in Russia consist of the cost of audit and costs of improvement. Audit costs attribute to 25% of the total cost and implementation of new practice around 75%. The main challenge in the certification of forest management is the significant gap between practices in the Russian forest sector and the requirements of international certification schemes.

Under current conditions, the average Russian company may save up to 10-15% of actual certification costs by using national consultants, training in-house experts and pooling resources to avoid duplication of effort e.g. Government led certification centers of excellence providing training programs and services such as the mapping of HCV forests

Small and medium size businesses may consider the use of Group certification or SLIMF type certification, which are less costly. Large companies and the Government may support the certification of leskhozoes (forest management units) in order to involve small and medium size businesses in certification.

Our research model has identified that the costs of implementing certified silviculture and harvesting exceed the financial benefits in the first five year period, although in the medium and longer term benefits outweigh costs.

The highest negative cost/benefit ratio is associated with protection of soil and water resources, assessment of high conservation value forests and increasing the quality of forest planning. The highest positive cost/benefit ratio is associated with implementing ecosystem-based management and improving wage policy.

Certification provides a significant boost for improving silvicultural operations in Russia, but internationally acceptable CSR practice will only be achieved if this is combined with modern policies and the improvement of legislation and governance. Investment in silvicultural improvements is only reasonable where a responsible leaseholder has overall responsibility for the complete forest management cycle.

Certification provides a rather modest increase in harvesting and downstream added value activities if it is not complemented by the use of modern equipment and new technologies. It is clear that the Russian forest industry desperately needs investment in new harvesting equipment and technology.

In addition to certification, other CSR initiatives are developing in the Russian forest sector. These include the Association of Environmentally Responsible Forest Companies of Russia (part of the Global Forest and Trade Network) and the Eco-rating of forest companies. Such initiatives should be better promoted and recognized by Government, consumers and investors Worldwide.

Experience developed in the forest sector should be disseminated into the agricultural and marine sectors to not only illustrate the long term benefits to private companies but also the use of internationally accepted certification as a cost effective control tool for the public sector.

The absence of a globally recognized Oil and Gas CSR label is the main constraint for the development of credible certification in the almost government monopolized oil and gas sector. The prototype for Oil and Gas standards exists in Russia and should be developed and promoted to bring Russia to the forefront of CSR in this sector.

9. Recommendations

Adapting legislation and norms to CSR requirement:

1. To develop a National CSR and certification policy in the forest sector
2. Encourage long-term leasing and transferring of responsibilities of forest management to concession holders. Use certification or commitment to it (and other CSR indicators) as a preferred bidder status in forest leasing competition.
3. Harmonize Russian forest legislation, especially the normative base, with the requirements of the Russian environmental legislation using certification requirements as the bridge.
4. Promote and encourage ecosystem based forest management, based on landscape planning through adaptation of necessary norms and regulations.
5. Revise Forest inventory instruction and practices to correspond to CSR requirements.
6. Revise the existing felling and reforestation rules within the framework of preparing new forest practice regulations. Seriously consider the revision of existing thinning rules to make them commercially viable (based on the example of the Pskov model forest).
7. Lower customs taxes on a variety of imported silvicultural and harvesting equipment.
8. Support the implementation of new harvesting technologies by adapting existing harvesting rules.

Partnerships and capacity building:

9. Develop Government & corporate partnerships (co-funding) of forest CSR programs, including mapping and conservation of high conservation value forests and protection of biodiversity in commercial forest areas.
10. Develop Governmental and Corporate sector partnership in developing the forest road network and the upgrading of harvesting technology.
11. To create a framework and investment climate to stimulate outside investment from IFC, EBRD and other donors into infrastructure development such as forest roads and upgrading of harvesting machinery into forest companies

12. Support the development of regional centers of certification excellence to reduce costs for individual companies by providing: programs of capacity building in social aspects of certification; biodiversity and rare species monitoring; regional programs of HCVF's mapping and conservation; training in controlled wood procedures
13. To focus development of such centers in regions where certification is in its early stages or market demand is low (e.g. areas associated with Russian-Chinese timber trade, such as Russian Far East, Chita and Buriatia).

Investment in brand image and training

14. Implement a campaign promoting Russian forests and Russian certified forest companies abroad
15. To develop a programme within MEDT for State Procurement of Russian Certified forest products on a preferred supplier basis for companies with good CSR practice, including staff awareness training programs
16. To promote certified wood within internal markets together with companies such as IKEA, Obi, Auchan and others.
17. Development of wide scale training programs, aimed at raising CSR capacity inside the corporate sector and state bodies, including the Federal Forest Agency and Rosprirodnadzor.
18. Support specific CSR product marketing training programs for private sector marketing managers.
19. Specialized government forest organizations (Forest protection service, forest fire service) to offer training to the private sector.
20. Promote and encourage participation of local population in forest management planning and respect the rights of indigenous peoples.

Support for small and medium size companies

21. Wider application of group certification and SLIMF certification to involve small and medium sized businesses in CSR programs.
22. Support certification of leskhozoes to improve the performance of small and medium size companies.

Application of forestry sector experience into other sectors

23. Organize a Ministerial CSR seminar to illustrate the benefits of CSR practice in the forest sector in terms of improved practice and the possibilities of utilizing international certification as an aid to state monitoring of the exploitation of natural resources.
24. Organize private sector CSR seminars for agriculture and fisheries to disseminate the benefits of international certification on management practices and market penetration learned from the forestry experience.
25. The prototype of Oil and Gas standards should be developed and promoted to bring Russia to the forefront of CSR in this sector.

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Appendix 1. FSC Principles and Criteria

FSC certification scheme

FSC certification is carried out by FSC accredited certification bodies. FSC itself does not certify forest operations or manufacturers and only the accreditation bodies themselves. This maintains FSC's independence between its standards and requirements, and operations seeking certification. FSC provides monthly updates on the certificates issued by FSC accredited certification bodies. The latest lists are available in the Certificates Lists section in the Document Center.

There are two types of FSC certificates available from certification bodies:

Forest Management (FM) Certificate

Forest management certification involves an inspection of the forest management unit by an independent FSC-accredited certification body to check that the forest complies with the internationally-agreed FSC Principles of Responsible Forest Management.

If the forest complies with FSC standards, then the FSC accredited certification body issues a certificate for the operation. Certified forest operations can claim the forest products they produce come from a responsibly managed forest.

Before a certified forest operation can sell their products as FSC certified, they must also obtain chain of custody certification (FM/COC).

Chain of Custody (COC) Certificate

Chain of custody certification provides a guarantee about the production of FSC-certified products. Chain-of-custody is the path taken by raw materials from the forest to the consumer, including all successive stages of processing, transformation, manufacturing and distribution.

From a customer perspective, the FSC label represents a promise that is being made to them. Chain of custody standards are the mechanism FSC has to ensure that 'promise' is delivered.

Operations that have been independently verified for FSC chain of custody certification are eligible to label their products with the FSC logo.

FSC Principles and Criteria for Forest Stewardship

FSC reference code: FSC-STD-01-001 (April 2004)

INTRODUCTION

It is widely accepted that forest resources and associated lands should be managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. Furthermore, growing public awareness of forest destruction and degradation has led consumers to demand that their purchases of wood and other forest products will not contribute to this destruction but rather help to secure forest resources for the future.

In response to these demands, certification and self-certification programs of wood products have proliferated in the marketplace.

The Forest Stewardship Council (FSC) is an international body, which accredits certification organizations in order to guarantee the authenticity of their claims. In all cases the process of certification will be initiated voluntarily by forest owners and managers who request the services of a certification organization. The goal of FSC is to promote environmentally responsible, socially beneficial and economically viable management of the world's forests, by establishing a worldwide standard of recognized and respected Principles of Forest Stewardship.

The FSC's Principles and Criteria (P&C) apply to all tropical, temperate and boreal forests, but more detailed standards for these and other vegetation types may be prepared at national and local levels.

The P&C are a complete package to be considered as a whole, and their sequence does not represent an ordering of priority. Major failures in any individual Principles will normally disqualify a candidate from certification, or will lead to decertification. These decisions will be taken by individual certifiers, and guided by the extent to which each Criterion is satisfied, and by the importance and consequences of failures. Some flexibility will be allowed to cope with local circumstances.

The scale and intensity of forest management operations, the uniqueness of the affected resources, and the relative ecological fragility of the forest will be considered in all certification assessments. Differences and difficulties of interpretation of the P&C will be addressed in national and local forest stewardship standards. These standards are to be developed in each country or region involved, and will be evaluated for purposes of certification, by certifiers and other involved and affected parties on a case by case basis.

If necessary, FSC dispute resolution mechanisms may also be called upon during the course of assessment. The FSC P&C should be used in conjunction with national and international laws and regulations. FSC intends to complement, not supplant, other initiatives that support responsible forest management worldwide.

The FSC will conduct educational activities to increase public awareness of the importance of the following:

- *improving forest management;
- *incorporating the full costs of management and production into the price of forest products;
- * promoting the highest and best use of forest resources;

*reducing damage and waste; and

*avoiding over-consumption and over-harvesting.

FSC will also provide guidance to policy makers on these issues, including improving forest management legislation and policies.

FSC Principles of Certified Forest Management

1 Principle #1: Compliance with laws and FSC Principles

Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.

1.1 Forest management shall respect all national and local laws and administrative requirements.

1.2 All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.

1.3 In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.

1.4 Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.

1.5 Forest management areas should be protected from illegal harvesting, settlement and other unauthorized activities.

1.6 Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.

2 Principle #2: Tenure and use rights and responsibilities

Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.

2.1 Clear evidence of long-term forest use rights to the land (e.g. land title, customary rights, or lease agreements) shall be demonstrated.

2.2 Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.

2.3 Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly

considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.

3 Principle #3: Indigenous peoples' rights

The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.

3.1 Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.

3.2 Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.

3.3 Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.

3.4 Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.

4 Principle #4: Community relations and worker's rights

Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.

4.1 The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.

4.2 Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.

4.3 The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labor Organisation (ILO).

4.4 Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups (both men and women) directly affected by management operations¹.

4.5 Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.

5 Principle #5: Benefits from the forest

Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.

5.1 Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.

5.2 Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products .

5.3 Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.

5.4 Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.

5.5 Forest management operations shall recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.

5.6 The rate of harvest of forest products shall not exceed levels which can be permanently sustained.

6 Principle #6: Environmental impact

Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

6.1 Assessment of environmental impacts shall be completed -- appropriate to the scale, intensity of forest management and the uniqueness of the affected resources – and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities.

Environmental impacts shall be assessed prior to commencement of site-disturbing operations.

6.2 Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.

6.3 Ecological functions and values shall be maintained intact, enhanced, or restored, including:

- a) Forest regeneration and succession.
- b) Genetic, species, and ecosystem diversity.
- c) Natural cycles that affect the productivity of the forest ecosystem.

6.4 Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

6.5 Written guidelines shall be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.

6.6 Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.

6.7 Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.

6.8 Use of biological control agents shall be documented, minimized, monitored and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.

6.9 The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.

6.10 Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion:

- a) entails a very limited portion of the forest management unit; and
- b) does not occur on high conservation value forest areas; and
- c) will enable clear, substantial, additional, secure, long term conservation benefits

7 Principle #7: Management plan

A management plan -- appropriate to the scale and intensity of the operations – shall be written, implemented, and kept up to date. The long term objectives of management, and the means of achieving them, shall be clearly stated.

7.1 The management plan and supporting documents shall provide:

- a) Management objectives.
- b) Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions, and a profile of adjacent lands.
- c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories.

- d) Rationale for rate of annual harvest and species selection.
- e) Provisions for monitoring of forest growth and dynamics.
- f) Environmental safeguards based on environmental assessments.
- g) Plans for the identification and protection of rare, threatened and endangered species.
- h) Maps describing the forest resource base including protected areas, planned management activities and land ownership.
- i) Description and justification of harvesting techniques and equipment to be used.

7.2 The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.

7.3 Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan.

7.4 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.

8 Principle #8: Monitoring and assessment

Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -- to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.

8.1 The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.

8.2 Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:

- a) Yield of all forest products harvested.
- b) Growth rates, regeneration and condition of the forest.
- c) Composition and observed changes in the flora and fauna.
- d) Environmental and social impacts of harvesting and other operations.
- e) Costs, productivity, and efficiency of forest management.

8.3 Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."

8.4 The results of monitoring shall be incorporated into the implementation and revision of the management plan.

8.5 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

9 Principle #9: Maintenance of high conservation value forests

Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.

9.1 Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.

9.2 The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.

9.3 The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.

9.4 Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes.

10 Principle #10: Plantations

Plantations shall be planned and managed in accordance with Principles and Criteria 1 - 9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

10.1 The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.

10.2 The design and layout of plantations should promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests.

Wildlife corridors, streamside zones and a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.

10.3 Diversity in the composition of plantations is preferred, so as to enhance economic, ecological and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes and structures.

10.4 The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. In order to enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems.

Exotic species, which shall be used only when their performance is greater than that of native species, shall be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.

10.5 A proportion of the overall forest management area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to restore the site to a natural forest cover.

10.6 Measures shall be taken to maintain or improve soil structure, fertility, and biological activity. The techniques and rate of harvesting, road and trail construction and maintenance, and the choice of species shall not result in long term soil degradation or adverse impacts on water quality, quantity or substantial deviation from stream course drainage patterns.

10.7 Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries. The use of chemicals is also covered in Criteria 6.6 and 6.7.

10.8 Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessment of potential on-site and off-site ecological and social impacts, (e.g. natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in principles 8, 6 and 4. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.

Plantations established in areas converted from natural forests after November 1994 normally shall not qualify for certification. Certification may be allowed in circumstances where sufficient evidence is submitted to the certification body that the manager/owner is not responsible directly or indirectly of such conversion.

Appendix 2. Main Non-Conformities between the Russian Forest Sector and Best International Practices (Montreal Criteria and Indicators)

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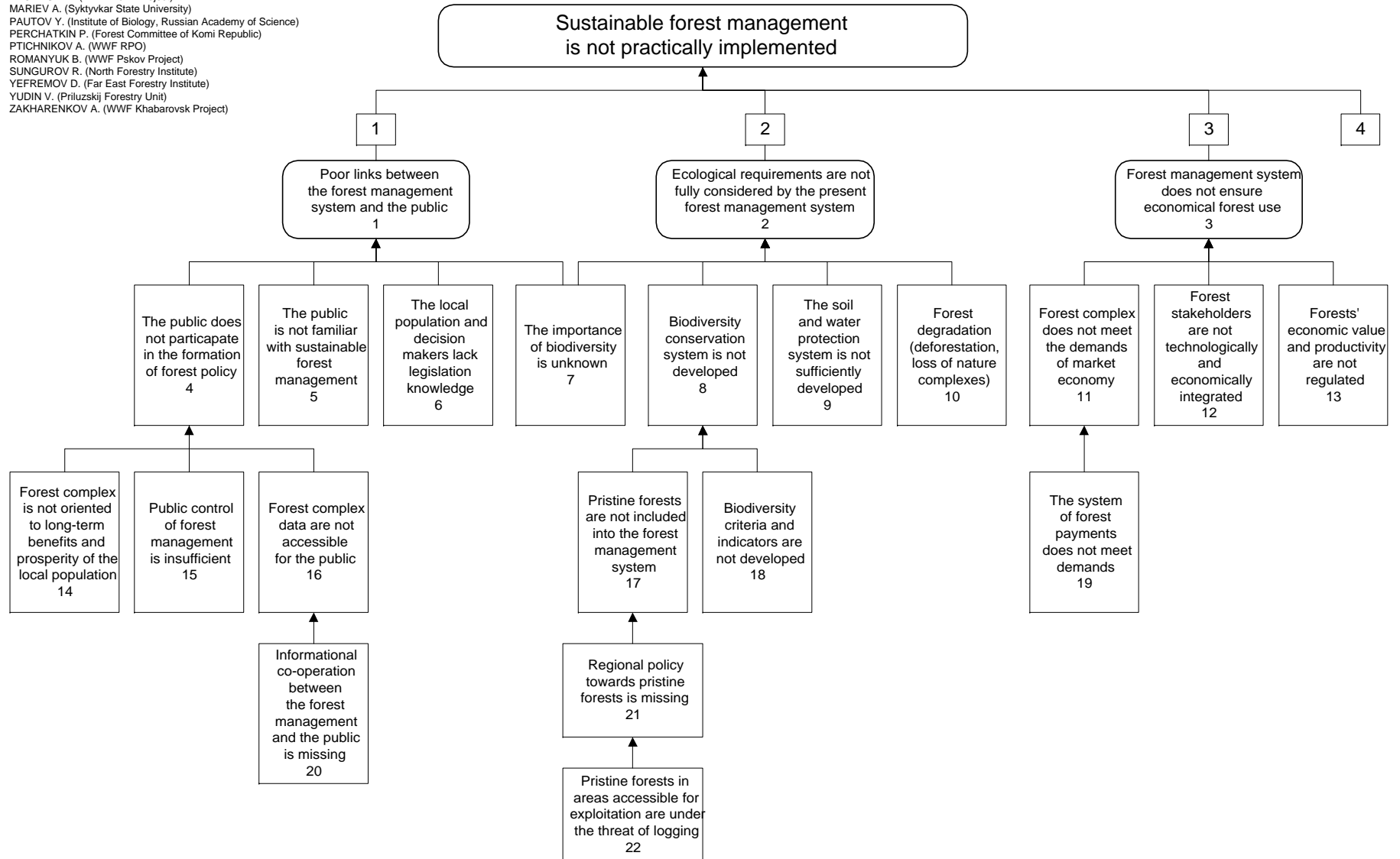
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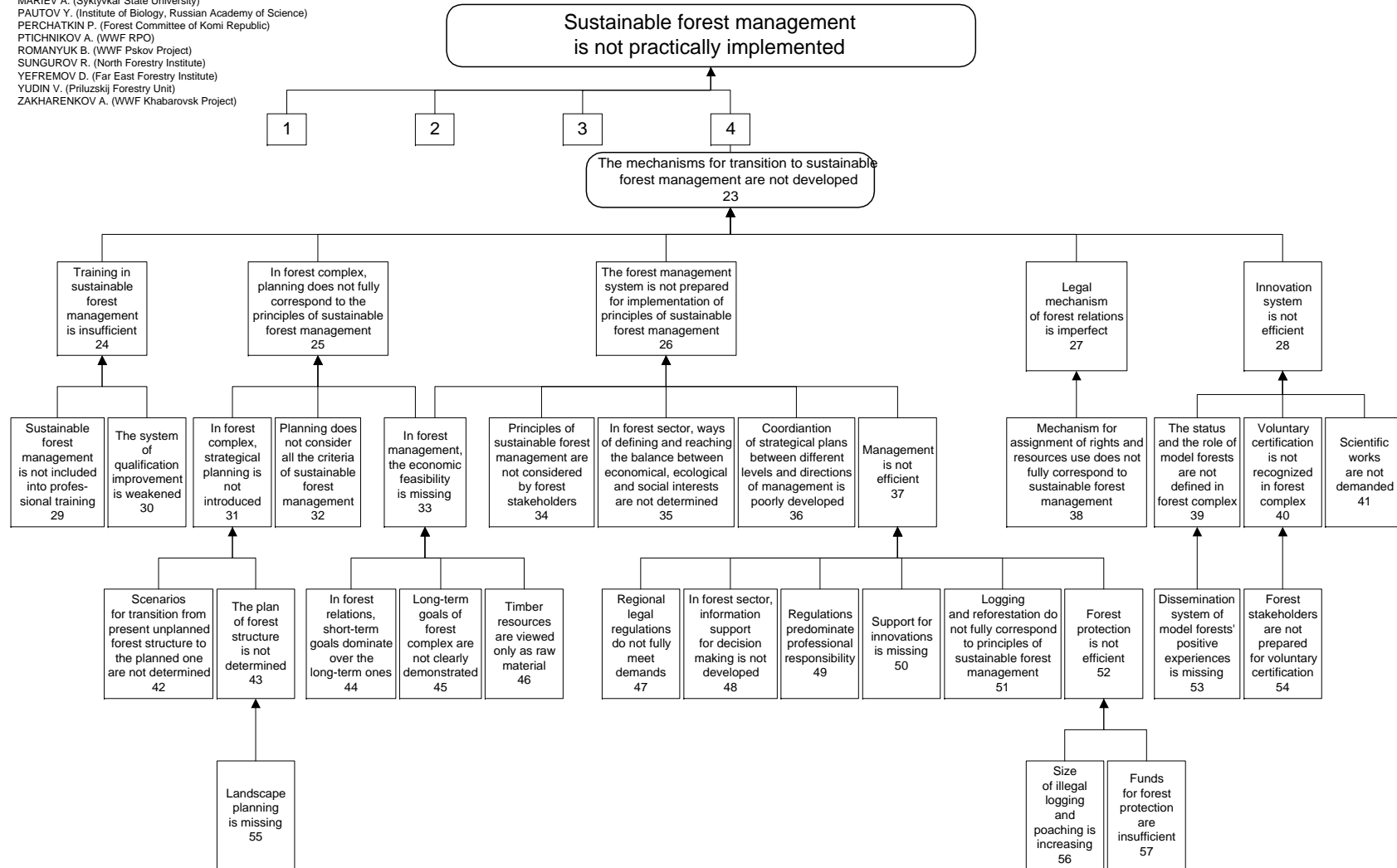
WWF Russian Forest Programme: Sustainable Forest Management Problem Identification



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WWF Russian Forest Programme: Sustainable Forest Management Problem Identification



Appendix 3. Russian Non-Governmental Nature Conservation Organizations' Common Demand to Oil and Gas Companies, Acting in Russia, its Continental Shelf and Exclusive Economic Zone

1. Environmental policy

Company elaborates and puts into practice transparent environmental policy, aiming at environmental safety assurance. Company's environmental policy basic principles are as follows:

- 1.1. Presumption of potential environmental danger of Company's activity.
- 1.2. Priority of preventive measures over response to environmentally negative consequences of Company activity.
- 1.3. Refusal to act in territories and aquatories of high environmental value.
- 1.4. Considering of environment features in the area of Company activity (composite ice situation, permafrost, seismic activity, active slope processes, etc).
- 1.5. Considering of indigenous people interests and rights (as well as other ethnical communities, that are equal in rights to indigenous people) for traditional lifestyle and preservation of the aboriginal environment.
- 1.6. Free access and transparency of ecological information.
- 1.7. Supporting of public control over Company activity.
- 1.8. Damage compensation under the Russian legislation.
- 1.9. Accident prevention and mitigation, including rehabilitation of ecosystems and animals.
- 1.10. Use of best available technologies.
 - 1.10.1. 1.11. Environment-friendly waste utilization.
 - 1.10.2. 1.12. Analysis and monitoring of Company activity and global climate change correlation.
 - 1.10.3. 1.13. Execution of Company environmental policy as a single document.
 - 1.10.4. 1.14. Appointment of person from top-management responsible for environmental policy implementation.

2. Law compliance

- 2.1. Company inviolately complies with Russian environmental legislation.
- 2.2. Company does not initiate and does not support changes of Russian legislation directed to reduce ecological requirements below EU standards.

3. Territories and aquatories of high value

- 3.1. Company neither act in areas listed below nor fulfill activity beyond these territories and aquatories, which may cause negative impact on protected nature complexes and objects thereof (No-go areas):

- 3.1.1. UNESCO world nature and culture heritage sites.
 - 3.1.2. Specially protected natural areas (hereinafter - SPNA) created under federal law "On Specially Protected Natural Areas" and regulatory acts of constituents of the Russian Federation (state strict nature reserves, national parks, nature parks, state nature reserves, arboretums and botanic gardens, curative and sanative lands and resorts, biosphere polygons of UNESCO world heritage sites and other types of specially protected natural areas) buffer and protection zones.
 - 3.1.3. Areas, included in perspective plans of creation of specially protected territories and/or reserved under the Russian Government decrees or state bodies of constituents of the Russian Federation for SPNA creation.
 - 3.1.4. Wetlands of international importance (Ramsar sites) both stated by the Russian Government and included in the "Perspective List" of the Ramsar Convention.
 - 3.1.5. Crucial habitats of species populations included in Red Data Books the Russian Federation and its constituents
 - 3.1.6. Key ornithological areas of international and national importance.
 - 3.1.7. Particularly sensitive sea areas and areas of marine mammals protection.
 - 3.1.8. Large low-damaged natural ecosystems until all the parties concerned find mutually accepted socially, economically and ecologically reasonable decision on preservation/use of these ecosystems. Until the official borders of the above listed ecosystems are stated, the borders are determined jointly with all interested stakeholders including nongovernmental organizations.
- 3.2. On specially protected natural areas of regional and local significance (including those in the process of planning), which protection regime doesn't forbid pipeline contraction, pipeline construction is allowed only in case if realization of alternative pipeline routes is impossible and this activity doesn't contradict to the establishment goals of these specially protected natural areas.
 - 3.3. On particularly sensitive natural ecosystems (near-tundra forests, water protection areas, forest shelter-belts), other natural ecosystems included into existing feasible schemes of proposed for protection areas recognized by scientific community and non-governmental ecological organizations of regional level, Company fulfills its activity providing it does not lead to natural complexes degradation and damage to biological resources, which compensation is provided by Russian legislation, and decrease of natural functions of the mentioned ecosystems.
 - 3.4. On particularly sensitive natural ecosystems, classified as water basins and its parts of highest commercial fishing importance, Company fulfills its activity providing it does not lead to damage of the mentioned ecosystems' biological resources.
 - 3.5. On lands of traditional inhabitation, economic activity, location of historical and cultural heritage objects of indigenous people and other ethnical communities Company fulfills its activity providing it gets an approval of the project

implementation sites with above stated groups, carrying out ethno-ecological expertise and taking into account its results, fulfillment of a special regime for activities carrying out, that provides preservation of aboriginal environment and traditional nature use of indigenous people and other ethnical communities, that are equal in rights to indigenous people.

4. Environmental impact assessment (EIA) and ecological expertise

- 4.1. Company holds evaluation of environmental impact of its projects under the following principles:
 - 4.1.1. Multi-variation of project scenarios, obligatory including evaluation of "zero variant" (refusal of project).
 - 4.1.2. Complexity of EIA (analysis of suggested activity on ecosystem basis and all the environmental objects).
 - 4.1.3. Carrying out of EIA for whole project or groups of interrelated projects considering features of technological chain of oil-and-gas complex (production, refining, storage, transportation).
 - 4.1.4. Complete and detailed analysis of all the possible risks for accident occurrence including scenario of total destruction of constructions and its consequences.
 - 4.1.5. Availability and transparency of EIA materials (EIA materials announcement in mass media including internet, obligatory allocation on web-site of Company of EIA materials and reasonable remarks and Company responses for public requests).
- 4.2. Company plans and fulfills its activity under results of strategic ecological assessment of environmental impact of plans and programs for regional development in which the project should be realized.
- 4.3. Company holds public discussions of its projects, informs public and persons concerned (through Company web-site allocation of information in publicly-accessible way) about presentation of projects for state and gives under first demand documentation for public ecological expertise to public associations under effective legislation.

5. Transparency of ecological information

- 5.1. Company provides public with ecologically meaningful information, including oil spills response and HSE declaration.
- 5.2. Company regularly holds independent ecological audit, results of which should be made publicly accessible, and provides necessary information for its holding by third parties.
- 5.3. Company immediately informs local population, public and self-governance bodies about emergency situations occurred, its consequences and response measures.

- 5.4. Company does not object and assists in events of control activity, fulfilled by public organization and authorized state bodies.
- 5.5. Company controls and informs public about priorities, procedures and results of drawdown of funds voluntary directed by Company for social-economic development of regions and environment protection.
- 5.6. Company provides openness and availability of research results, which is carrying out within the frameworks of environmental impact assessment procedure and environmental monitoring, including placement of these materials on the Company's Web site.

6. Damage and losses compensation

- 6.1. Company holds detailed ecological-economic assessment of full value of natural resources taking into account their environment-shaping functions, and include into feasibility study of project losses from losing resources, which will be taken during project realization, as well as losses which may take place in branches of economy, related to sustainable use of natural resources (resort development, tourism, fishing, forestry etc.). Information on losses evaluation and value of resources, which might be lost, should be in open access.
- 6.2. In accordance to Russian legislation Company compensates in full damage to environment and population which suffered from negative impact of activity Company and its contractors and sub-contractors.
- 6.3. Company ensures and takes all the responsibility for production units removal from service and further territory restoration. Funds for all that should be included and considered on the stage of feasibility study of the project.

7. Prevention and response for oil and oil products spills

- 7.1. Company has the plan of prevention and response of emergency situation and posses all the necessary means of accident management – of its own accidents as well as of those caused by its contractors and sub-contractors. Company insures risks in full at independent insurance companies and/or reserves its own funds for these purposes. Information about all aspect of financial liability should be open.
- 7.2. Company officially publishes selection of oil spill response scenarios for the main list of possible emergency situations related to spills occurred in Company units, related to these units operations of partners and third parties, or operations of oil transportation to first point of consumption or re-load. Company officially publishes scenarios of financial provision for accident consequences response as well as compensation of damage payment to all negatively impacted parties.
- 7.3. Company transports its products under the following conditions:
 - 7.3.1. Plan of prevention and response for spills of oils and oil products for tanker transportation.

- 7.3.2. Realization of EIA for the complete cycle of products transportation.
- 7.3.3. Transition plan to use double-hull tankers in water transportation.
- 7.3.4. Company ensures accident-less functioning of its pipeline system including in-field and inter-field pipelines.

8. Prevention and minimization of negative impact on environment

- 8.1. Company has schedule for implementation of best available technologies, highest standards, norm and practices for minimization of negative impact on environment.
- 8.2. Company has schedule for switch from gas flaring during its drilling operations.
- 8.3. Company holds drilling activity under principle of "zero waste discharge" into any water environment.
- 8.4. Company cooperates with other companies in joining and common use of infrastructure necessary for project realization in case of decrease its impact on environment.
- 8.5. Company switch to non-warehouse drilling technology.
- 8.6. Company takes measures to decrease landscape fragmentation and square of damaged territories, first and foremost in construction of engineering line structures (oil and gas pipelines, roads, electricity transmission lines etc.).
- 8.7. In area of its activity Company prevents illegal hunting, fishing, gathering of forest products and other usage of flora and fauna by its employees and employees of contractors and sub-contractors.
- 8.8. Company does not allow infringement of legal interests of traditional users of local natural resources, particularly indigenous people interests and rights (as well as other ethnical communities, that are equal in rights to indigenous people) whose lifestyle depends on the well-being of environment and use of animals and water biological recourses.
- 8.9. Company informs contractors and sub-contractors about environment protection requirements and controls its fulfillment.

9. Environment-oriented initiatives

- 9.1. Company sponsors or has its own projects for renewable energy sources.
- 9.2. Company encourages developments of environment protection initiatives in regions of its activity, including development of SPNA network.

10.Greenhouse gases discharges

- 10.1. Company forms and publishes in open press data on its greenhouse gases discharges under international methodology, accepted by Framework convention of the UN on climate change.
- 10.2. Company takes voluntary obligations to decrease and limit greenhouse gases discharges.

Appendix 4. Effects of Climate Change on Species and Diversity of Ecosystems

Climate change has now become a popular and even fashionable discussion topic. From a speech made by UNEP Executive Secretary Mr. K. Topfer "in a few decades the average temperature will increase by several degrees (IPCC, 2001)". It should seem that everything is clear: we are in for shocks and it is necessary to "save" ecosystems. However, when it comes to specific actions, it turns out that we have no idea when and what needs to be done to help ecosystems and individual species of animals and plants to adapt to the changes (1)

Changes of the climate parameters

Global warming is very far from uniform time- and space-wise with the 'warming' indicators being significantly dependent on the season. Warming occurred mainly in the cold half of the year, primarily in January-March in the European Russia in the second half of the 20th century. The changes are very small in the warm half of the year, while a cooling, albeit slight, took place in a substantial part of the territory.

The spatial distribution of atmospheric precipitation trends is more complex and so far does not make it possible to draw a straightforward conclusion on a general trend for the given region.

The changes of hydrological parameters were primarily determined by a general earlier opening of the rivers, a reduction of the period with stable snow cover and lengthening of the frost-free period. On the other hand, it is not so much the change in these periods' length, but rather their "shift" to earlier periods that is observed. Overall, a kind of more "protracted" spring is noted (with a much-earlier-than-previously warm March) and a more "contracted" autumn when November actually becomes a winter month (2).

Changes of the phenological parameters

Speaking about the European part of Russia, the current climate warming has so far failed to become a factor resulting in cardinal changes in the structure and functioning of the ecosystems.

The changes in the terms of the onset of seasonal phenomena of the early and middle spring, autumn indicative of the warming, are, doubtless, present. But they more likely testify to the ability of the natural communities to adapt to similar external impact without substantial damage to themselves (3). Moreover, the contradictory nature of unilateral phenological trends under seemingly obvious climate change over the last few decades may be evidence to a rather wide range of adaptation mechanisms in biological communities for surviving such periods.

The phenological response of the animals to the current climate change is not straightforward either. According to the data of the nature reserves and voluntary phenology correspondents, the arrivals of most species of sparrow-like birds have generally come to occur earlier over the last decades. However, the arrival of starlings on the most part of the Plain has, on the contrary, got somewhat delayed (3), while the cuckoo has practically failed to react in any way to the warming of spring.

So, a rather "mosaic-like" picture of phenological changes is observed showing that there is already some "external climate shock", but so far it has been rather an imbalance of the ecosystem, but not a directed shift.

The response of the forest ecosystems

Overall, the available data do not make it possible to identify the response of the Russian Plain's forests to the observed climate change. Moreover, the increased CO₂ concentrations in the atmosphere may intensify the photosynthetic activity of the trees and consequently, "blur" the picture.

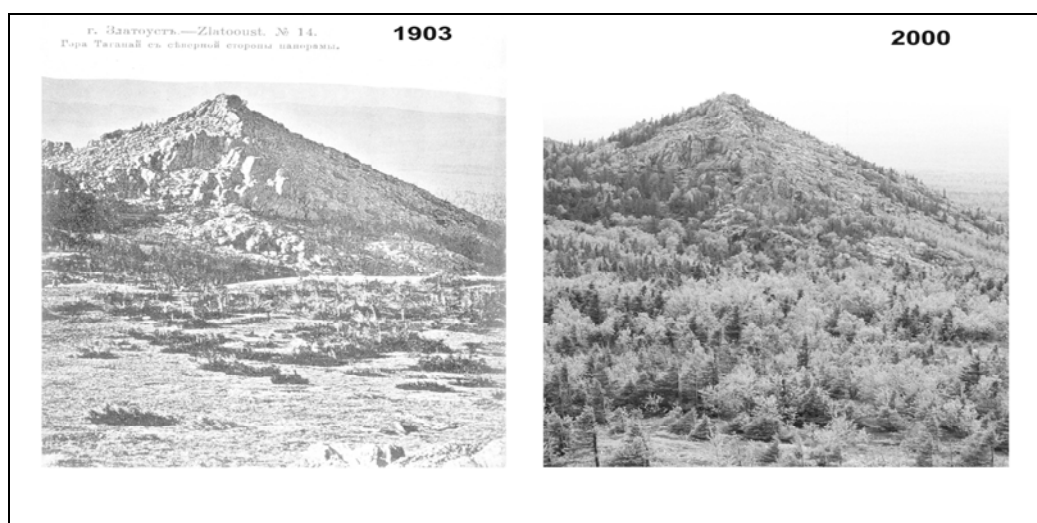
Forest ecosystems have a wide tolerance range that makes obtaining reliable data on their response more challenging.

However, it is important to emphasize here that precisely such a lack of response from the plain-land forests was in fact forecast. Firstly, many authors point out the lagging response of the stands (4). The lag may range from dozens to hundreds of years and it is reasonable to assume that the observed climate changes have so far failed to cause a sufficiently clear-cut response of the forests of the plain part of European Russia.

Secondly, according to global model computations, the climate changes in the territory under review are such that, overall, they exert almost no effect on the stands. The work (5) analyses the projections of "migration" of forest vegetation and the changes of carbon specific reserves upon doubling of CO₂ concentrations in the atmosphere, that is tentatively in 2030-2050. Even in 40 years the changes are very small and it is not surprising that we cannot identify them today.

A different picture is observed in the alpine regions, specifically, in the Southern Ural, where detailed dendrochronological data were collected, which is an efficient method of assessing the response of the forest ecosystems to the variations of climate indicators. (6). They clearly testify to the changes, vividly and visually demonstrated in Figure 2.

Diagram 1. Example of the change in the forest upper boundary, the Southern Urals, the area of the Tree Sisters Mountain (6)



Speaking about the identified effects as a whole, one can draw a conclusion that there is already a "climate" signal, but it is not dangerous for the ecosystems yet. Exceptions are individual cases, for example, the tundra ecosystems of Southern Ural or the populations of certain rodents and the wild boar on the Oksky Nature Reserve, drying of the oak forest in the Voronezhsky Nature Reserve, etc. The "signals" are probably stronger in the alpine regions, but the range of natural variations of the phenological parameters is bigger there and in-depth perennial observations are required to make some numerical conclusions.

At the same time, more attention should be paid to other regions in the coming years, primarily the alpine and Arctic ones.

Adaptation capabilities of ecosystems and majority species are very big and an overwhelming majority of species could live without problems in the typical-of-the-forecasts "double" CO₂ (550 ppm) concentrations, expected around the year 2050 (IPCC, 1996; IPCC, 2001). So the projections of ecosystems' life based on the stationary condition with a double CO₂ concentration should be taken with reasonable scepticism. The key problem lies in the *rate* of the changes, since it is the adaptation *rate* that is somewhat limited. Moreover, the anthropogenic stress has a direct impact on the adaptation rate. It is a challenge for the reindeer to concurrently adapt to both an icy crust covering the snow (which is the result of an unexpected thaw) and to the forced change in the seasonal migration routes (the result of the industrial assimilation of the given territory). It is precisely here that our role is important - to strive for a reduction of anthropogenic stress where it "overlays" on the impact of climate change and may lead to a serious damage or even the extinction of a species.

There is another issue: in order to live in a "new" climate, many species need to migrate, for example move to the north or higher up the mountains, but sometimes there is physically nowhere to move or man has already put insurmountable barriers on the migration routes. It is important here to understand the specific details of the problem and timely "construct" corridors and protected areas.

The answers to these purely practical questions unfortunately cannot be obtained with the help of the already available numerous global and macroeconomics works. Their value lies in an overall perspective of the issue, assessment of its scale and *preliminary* identification of "hot" spots and effects. Local studies and identification of local adverse climate "signals" are required for specific Adaptation plans of countries and regions.

Obviously, to draw up such plans, we first of all have to understand *What, Where and When* may happen. Where our assistance will be needed very soon and where it will be required only in 30-50 years. A two-stage action scheme is envisaged for this purpose.

As example WWF "climate passports", were prepared for selected eco-regions. They are aimed at attracting the attention of the public and officials and identifying the "scale" of the problem (the extent of catastrophe, tentative time frames for action-taking and territory sizes) – see Box below. Additionally the Russian nature reserves may serve polygons for many Climate change comparative studies, as they possess the longest (in some cases 100 year) time-series of observations, known as Nature Chronicles.

Box 1. Effect of climate change on the Taimyr Peninsula ecosystems

The attributes of progressive warming in the Arctic are evident. The average annual temperature has increased by 5 °C over the last 100 years. The ice-covered area has considerably shrunk and the thickness of the ice has decreased. In the Taimyr region, these processes are developing more slowly, and in the immediate 10–20 years into the future it will probably remain an “oasis of climatic welfare.”

Nevertheless, the prediction models, particularly those mentioned in the IPCC Third Assessment Report, confirm the general tendency towards warming in this ecoregion. Despite a few seemingly positive moments connected with the prospect for an “easing” of severe climatic conditions, the warming can have a negative effect on the ecosystems and the lifestyle of indigenous peoples. The long-term prognosis is, unfortunately, much more unfavourable.

Taimyr is a vivid example of how the fate of the Arctic depends on our activities in Europe and other continents. One factor is universal for the entire Arctic. Greenhouse gases emissions on all continents cause climate changes, which are much more pronounced in the Arctic than in the industrial regions responsible for the emissions.

The second factor is, however, unique for Taimyr. The peninsula is the cradle of the annual bird migration in Europe, Africa, and Asia. Tens of thousands of both rare and common birds only breed on Taimyr. The rest of the time they spend on the wintering grounds and migratory stopover places. Climate changes in those places and the corresponding floods, droughts, changes in the land use and agricultural practice directly and negatively affect the birds, particularly those with limited diets, such as the Red-breasted Goose, Brent Goose, Knots, et cetera. It will be very difficult for these species to shift to different wintering grounds.

Therefore, climate changes in Europe are actually superposed on those on Taimyr. At present, climate changes are clearly manifested in Europe. The floods of 2002 gave way to extreme drought and heat in 2003. On Taimyr, less pronounced heat and drought can result in an abrupt decline in the number of lemmings. Predators will shift to geese, thus minimizing their reproductive success. If such years occur frequently, the population can be undermined. It is evident that only jointly, both in Europe and Taimyr, and only with the help of well thought out measures, particularly in the climate unfavorable years, can the stable existence of these rare birds, the Red-breasted Goose among them, be secured.

Marine mammals are traditionally the most vulnerable part of the Arctic ecosystems. Taimyr is not an exception to this rule. The warmer but less stable climate will be more harmful than favourable for walrus, seals, and whales. In general, the polynias will be more extensive, thus providing better conditions for the animals, which will increase in numbers. But their fate will be even more tragic in particularly severe years with shrinking polynias and a lack of food. If walrus dive for molluscs in one and the same place, they would soon starve and even die in winter.

Special measures can be required to maintain the stability of the population of the Laptev Sea Walrus. Polar bears will be also affected by the warming. The amplitude of seasonal fluctuations of the ice edge will increase for hundreds rather than tens of kilometres. However, the local bears are not used to it. The ecoregion is inhabited by low numbers of animals, and we can expect that this combination of factors can result in the complete extinction of the species in the region.

An increase of the frequency of the spring and autumn thaws and frosts is particularly dangerous for the reindeer and muskox, as well as for all other ungulates, because the ice crust restricts the animals' access to food.

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