ASSESSING THE ATTITUDES OF FOREST INDUSTRY COMPANIES OPERATING IN NORTH-WESTERN RUSSIA TOWARDS FOREST CERTIFICATION

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Abstract

This study explores the attitudes associated with forest certification among forest industry companies. The interviews were carried out in form of structured questionnaire from September to December 2011, with 35 forest industry companies operating in North-Western Russia that supply primary and value-added wood products, where 40% represented non-certified companies and 60% had a valid certificate. The interviewed companies represented 70% of market share in terms of wood consumption in North-Western part of Russia. Thus, development of certification in individual companies was initiated by general market demand; however, representatives of certified companies also emphasized the importance of internal corporate policy. Both groups of respondents identified market demand as a main driving force influencing on the development of forest certification. Insuring the legality of wood origin, company's image and competitiveness of wood products were recognized as the most important benefits associated with forest certification. Absence of mandatory requirements from authorities and customers appeared to be the largest obstacle among both groups of respondents, in addition to that the representative of non-certified companies pointed out economic inaccessibility and low level of preparedness of management as of high importance, which is mainly associated with absence of quality management system. The results of the study indicated a general positive attitude; however it was noticed that respondents have gaps in understanding the principles and limited awareness with regards to forest certification, especially among non-certified forest industry companies.

Keywords: Attitude, certification, Russia, forest industry

Introduction

Russia has the largest forest resources in the world. Forests in Russia cover a total area of over 800 million hectares. It corresponds to approximately 50% of land area (FAO 2010). Russian's forest and forest industry sector have received national and international attention over the last decades. Russia plays an important role in the international forestry sector as the largest exporter of industrial round wood, second of sawn timber, fifth of plywood, eighth in pulp (FAO, 2009). Internationally, Russia has passed a final approval of World Trade Organization (WTO) after 18-year quest to join, boosting the forestry economy of its biggest trading partner, the European Union (IFI, 2012). Domestically, there have been significant changes in the forest tenure rights by expanding forest leases up to 49 years and decentralization of forest management from a Federal to a regional level, although numerous factors hindering the establishment of sustainable forest management (Torniainen 2009). Illegal logging is considered as one of the main challenges. According to official governmental statistics the illegal wood removals are estimated at 15-25 million m^3 annually, when non-governmental organizations (NGO) estimate as 40-50 million m^3. The difference in the estimates of the uncertainty associated with the legal status of "illegal logging" as well as the lack of an effective system to control the forest management practices in most parts of the country (Yaroshenko, 2012). Therefore increased attention has to be dedicated to the implication of sustainable forest management (SFM) for Russian forest industry companies by a credible and independent tool.

As a result of growing awareness towards global forestry challenges such as deforestation, forest degradation and biodiversity loss became one of the most important issues worldwide since 1980s and early 1990s (Myers 1980, Wilson 1988), forest certification has emerged since the 1990s as an instrument to facilitate SFM and combat illegal logging worldwide (Stevens et al., 1998). There are two major international certification schemes applicable to Russia which provide a credible guarantee that the product comes from a well-managed forests: Program for the Endorsement of Forest Certification (PEFC) and Forest Stewardship Council (FSC). As of November 2011, 238 million ha of forests had been certified by the scheme endorsed by PEFC, and 8 672 PEFC Chain-of-Custody (CoC) certificate holders had been issued (PEFC, 2010a). Another 147 million ha of

forests had been certified by FSC scheme, with 21 879 CoC certificate holders as of December 2011 (FSC, 2011a).

The facilitation of certification process in Russia was initiated by environmental non-governmental organizations in late 1990s mainly to promote FSC certification scheme (Tysiachniouk 2003). The Kosihinsky leshoz in the Altay region was the first company in year 2000 to receive FSC certificate of forest management covering 30 thousand ha of forest land (All about Russian forests 2000). As of December 2011, 28 million ha of forest had been certified by FSC scheme, with 171 CoC certificates holders (FSC, 2011b). Since 2009 PEFC Russia issued 1 certificate, as of December 2011 approximately 170 thousand ha of forest has been certified, with 4 CoC certificate holders (PEFC, 2011b). The progress of forest certification in Russia has been substantial, although the number of certificates and the area of certified forest remain relatively small, covering about 20% of leased forest areas in Russia (Ptichnikov et. al, 2011). Nevertheless the development of the main principles for SFM has started already in 1999, which resulted in the adoption of the FSC National Standard. It is a key document describing the main principles and criteria in Russia adopted by Russian FSC Accreditation Committee (Karpachevskiy et al., 2009). Some of the aspects of the standard regarding the rights of indigenous people, safeguarding biodiversity and maintaining high conservation value forests (HCVF) were advanced to insure the development of SFM practices in Russia.

The development of international processes aiming to eliminate and regulate the illegal wood flow may have a positive effect and boost the development of forest certification in Russia. Thus, the Regulation 995 of European commission requires compulsory declaration of all wood imports coming from non-European Union (EU) countries (Decree 995/2010). Similarly this system already works in forest certification procedures. Additionally several of EU countries adopted responsible governmental procurement program of wood product as part of common EU regulations. Thus, all wood importers are obliged to fulfill the legal requirement based on due diligence system (FSC, 2011c).

Development of forest certification in Russia requires research support and knowledge-based approach. Understanding of potential benefits and primary barriers is lacking by forest industry companies.

The aim of the study was to examine the attitudes of managers in selected Russian forest industry companies operating in North-Western part of Russia towards forest certification. The sub aims included: 1) analyzing the current trends and driving forces influencing on development of forest certification; 2) identifying the benefits and primary

barriers among certified and non-certified forestry companies; 3) investigating the perception dissimilarities between certified and non-certified companies.

Methods

The perception of forest industry companies operating in North-Western (N-W) part of Russia was analyzed via survey. This region includes Karelia, Komi, Arkhangelsk, Vologda, Leningrad, Novgorod, Murmansk, Pskov and Kaliningrad. It plays a key role in Russian forest industry sector and has been well-developed in comparison with the rest of Russia. The forest resources of N-W Russia are supplied not only to domestic, but also to export markets, mainly in the form of round wood. In fact, North-Western Russia is the most important industrial Roundwood supplier to Europe, particularly to Nordic countries.

The survey process was conducted from September to December 2011; when selected 35 companies' representatives were interviewed, with respond rate of 35% from overall number of contacted companies. The sampling included both certified and non-certified forest industry companies. The questionnaire form was targeted to obtain individual responses and within each company, a single interviewee was targeted. Interviewing only one expert from a company may bring some uncertainties, although it was assumed that the interviewed persons had an objective perception of the company. In smaller companies the respondents were distinctively the Managing Director or Head of the Department, while in larger companies the Manager responsible for certification or Wood Sourcing Manager were interviewed.

Surveyed companies included primary wood product (Roundwood, traiding) and value-added products (sawnwood, wood-based panels, furniture, packaging, pulp and paper). While the total number of forest industry companies operating in North-Western Russia exceeding 3000 (Industrial business handbook of Russia, 2012), only a limited number of forest industry companies were interviewed in the study. Whereas those companies represent 70% of wood consumption in the N-W region mapped on the atlas (Gerasimov et al., 2009) or equivalent to about 20 million m^3 of primary and value-added wood products, including large-, medium and small-sized companies.

The questionnaire form consisted of seven pages and 43 questions for certified companies, while for non-certified companies it consisted of six pages and 32 questions. The form included a cover letter explaining the background knowledge, the purpose of the study and relevance of the topic. An initial letter was sent to each potential company via email, inviting them to participate in the study. If assent was given, the participants were approached by e-mail or telephone. Moreover, on-site personal interviews were conducted

with a questionnaire to assure a high response rate and reliable answers. All of the communication was in Russian, but the questionnaire form was initially prepared in English language and then translated into Russian.

Participants were asked to provide a general description of their companies and operational scope, type of obtained/demanded certificate, strategy providing a judgment on main factors determining the development of forest certification and identifying the conditions when non-certified companies would be willing to obtain certification and ranking of the primary barriers and potential outcomes of the certification. Despite its complexity and length, the questionnaire form was logically-structured in order to obtain a comprehensive picture and crosscheck the respondent's answers.

A five-point Likert scale was used to measure the perceived level of benefit for certified companies or potential benefits for non-certified companies, where 1=very low and 5=very high. A similar scale was used to estimate primary barriers/or potential barriers related to certification. The reliability of 15 factors regarding the benefits and 8 on primary barriers was tested by using the Cronbach's alpha which showed a higher satisfaction level of internal consistency (alpha=0. 83 and alpha=0. 79 consequently). A reliability coefficient of 0.70 and above is usually considered acceptable and desirable for consistency level (Prokop et al., 2007a, 2007b).

Collected data were analyzed by the Statistical Package for Social Science (SPSS). Although the sampling was not purely random the indicative significance testing was used. A Mann-Whitney U test measured significant differences between the groups. Additionally, the data used to estimate the benefits and barriers for both groups of respondents was recoding in SPSS from 5 scale into 3 scale system, where 1=very low and 2=low importance joint into 1=low importance; 3=moderate into 2= moderate; and 4=high and 5 very high importance joint into 3=high importance.

Results

The interviewed companies were covering most of the regions of North-Western Russia, except Kaliningrad and Murmansk regions. The questions related to company profiles explored the general facts which were compiled in Table 1.

Table 1 Respondent profile

Variables	Total number of companies (n=35)		Certified companies (n=21)		Non certified companies (n=14)	
1. Wood sourcing regions*	n	%	n	%	n	%
Karelia	16	22	12	23	4	20
Leningrad	13	18	8	15	5	25

Vologda	10	14	9	17	1	5
Komi	5	7	5	9	0	0
Novgorod	9	12	4	8	5	25
Arkhangelsk	10	14	7	13	3	15
Pskov	5	7	4	8	1	5
Other regions of European part	5	7	4	8	1	5
2. Number of employees						
0-99	11	31	1	5	10	71
100-199	6	17	3	14	3	21
200-499	6	17	6	29	0	0
500-999	6	17	6	29	0	0
>1000	5	14	5	24	0	0
No answer	1	3	0	0	1	7
3. Product group						
Primary product	15	43	3	14	12	86
Value-added product	20	57	18	86	2	14
4. Main customer type						
Industrial end user	21	60	19	90	2	14
Intermediate user	14	40	2	10	12	86
5. Turnover (€/year)						
< 100 000	0	0	0	0	0	0
100 000 - 500 000	4	11	1	5	3	21
500 000 - 1 000 000	4	11	0	0	4	29
1 000 000 - 10 000 000	4	11	3	14	1	7
10 000 000 - 50 000 000	8	23	6	29	2	14
> 50 000 000	4	11	4	19	0	0
No answer	11	31	7	33	4	29
6. Countries of export**						
EU countries	22	55	15	52	7	47
Japan	4	10	3	10	1	7
UK	2	5	2	7	0	0
China	2	5	2	7	0	0
CIS countries	3	8	3	10	0	0
North America (USA, Canada)	1	3	1	3	0	0
Other countries	1	3	1	3	0	0
No answer	5	13	2	7	7	47

* - companies indicated more than one wood sourcing region
** - companies indicated more than one country of export for their wood products

It was found that interviewed forest industry companies have in their wood procurement area other regions apart North-Western Russia, e.g. Tver and Kirovsk region. The number of employees was used as an indicator to estimate the size of the company. Thus, five groups were apparent: very small companies (0-99), small (100-199), medium (200-499), large (500-999) and very large-sized companies with over 1000 employees. Most of certified companies represent medium- (n=6), large- (n=6) and very large-sized companies (n=5), when most of non-certified companies represent very small companies (n=10). It should be

noted that most of non-certified companies (n=12) represented primary product group, when certified companies mainly representing value-added product (n=18). It was indicated that among certified companies the industrial end users is the dominated customer type (n=19) while for non-certified companies the intermediate users is considered as main customer type (n=12). More than half of both certified and non-certified companies export their wood products to the countries of the European Union, particularly Finland, Estonia and Germany.

Most of forest industry companies manufactured a diverse range of products, rather than specializing in a single product, however each interviewed company has been classified according to its main product specialization. A variety of products were manufactured by the interviewed companies, including round wood, sawn wood, veneer, furniture parts, wood-based panels, paper and packaging (Fig 1). As it can be seen from the figure 1, approximately 86% or 29 respondents represent 4 major production groups, such as, roundwood, timber trading, sawn goods and paper companies. Non-certified forestry companies covered mainly timber trade, roundwood and partly sawnwood, where certified companies covered the rest, mainly including value-added group of products.

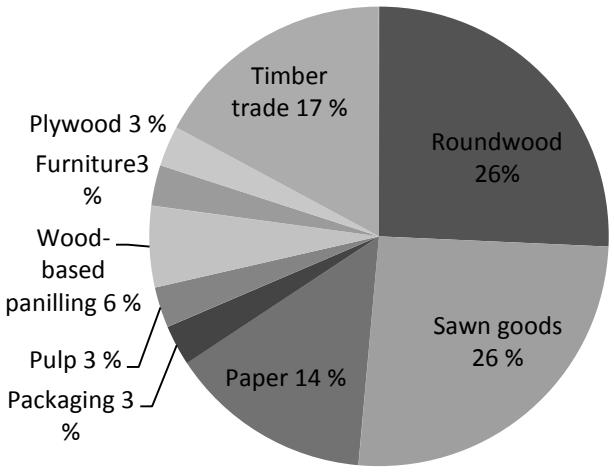

Fig. 1. Production type of interviewed companies (n=35)

The certified respondents (n=21) have obtained 36 certificates, mainly dominated by FSC certification scheme (Fig. 2). Thus, 72% of the companies have received a combine certificate, either Forest management/Chain of Custody (FM/CoC) or Chain of Custody/Controlled Wood (CoC/CW). Moreover all the combine certificates included CoC part in order to sell the products further in a supply chain. It is worth to mention that among PEFC certified companies combined certificates were not presented.

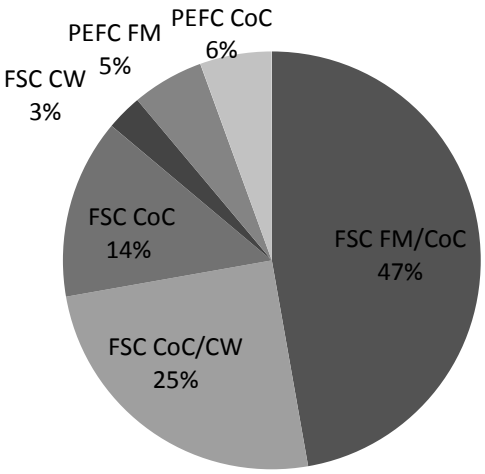

Fig. 2. The type of obtained certificates by interviewed companies

In addition Figure 2 illustrated the fact that certified companies obtained more than 1 valid certificate per company.

Notably, those 14 out of 35 interviewed companies had not yet adopted the forest certification, and consequently those responses below indicate more of expectations rather than experiences. The significant difference was noted between two groups of respondents with regard to the main factor affecting the introduction of forest certification in the companies (p<0.05). The adoption of forest certification for 13 out of 14 non-certified companies was driven by general market and interest from stakeholders' side (Fig 3.). Despite that respondents from certified companies indicated the importance of both internal corporate policy (9 responses), and market demand and stakeholders (12 responses).

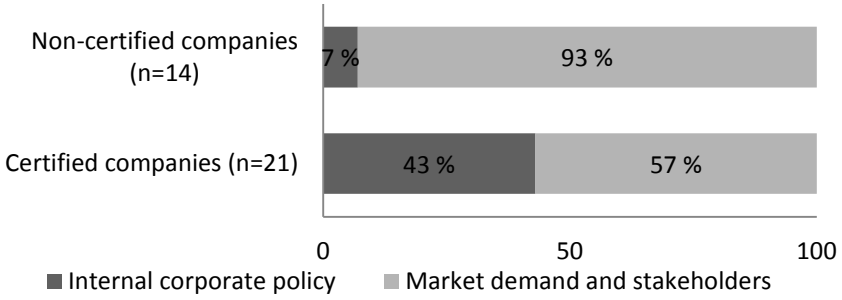

Fig. 3. The factors affecting the initiation of certification process in interviewed companies (n=35).

Thus, the prevailing number of non-certified companies are pressured to introduce the certification process by stakeholders and general market demand, where certified companies have initiated the certification based on the influence of both internal and external factors.

Among the nine listed items which determine the development of certification in interviewed companies, respondents from both certified and non-certified companies ranked

"market demand" as most important factor affecting the development of forest certification (Fig. 4).

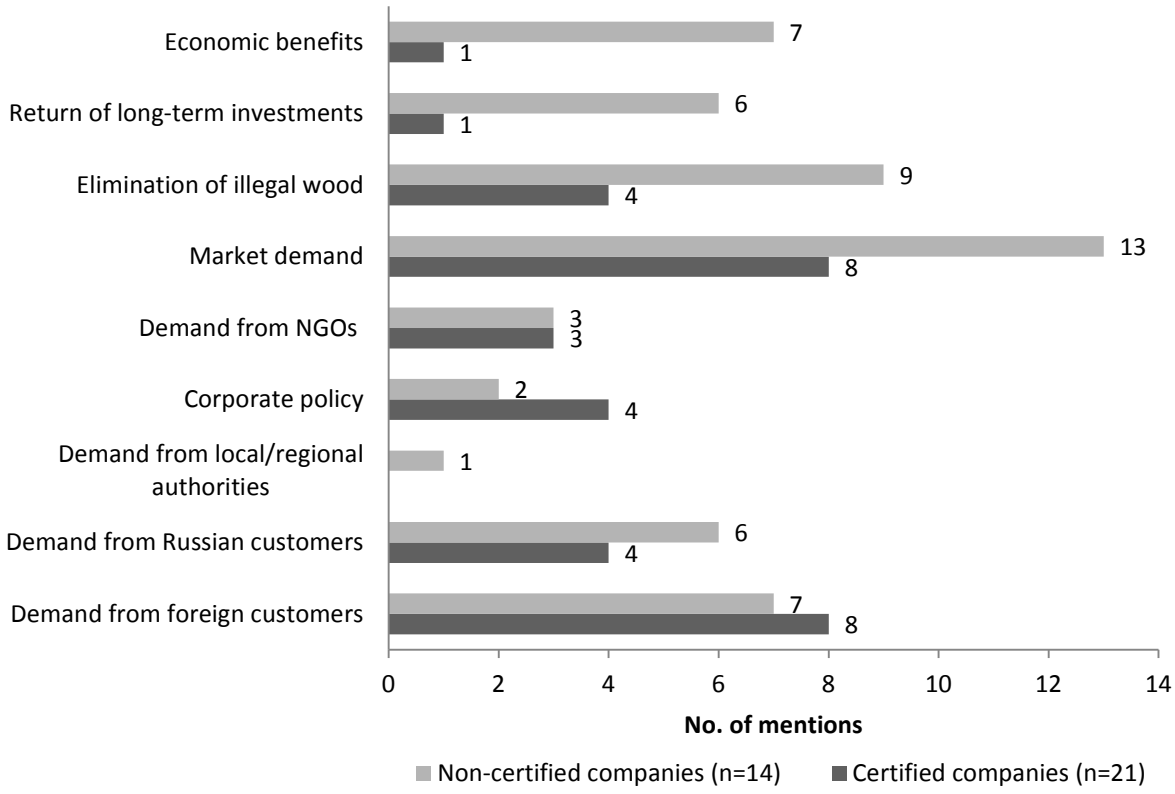

Fig. 4. Main driving forces influencing on development of forest certification (n=35, number of mentions allowing for multiple responses)

Apart from "market demand" certified companies indicated the importance of "demand from foreign customers". Aside from "market demand" non-certified companies indicated the importance of certification for "elimination of illegal logging". It is worth to mention the difference in attitudes between certified and non-certified companies towards "economic benefits" and "returning of long-term investments". Least important factor for both groups of respondents was "demand from local and regional authorities".

Perceived benefits associated with forest certification are shown in Table 2. The significant difference between two groups of respondents has been found for "better access to leasing contracts" and "additional sales of wood products". Although the significant difference in the attitudes has not been found for most of the studied categories for both groups of respondents the importance of benefit has been different. Thus, among certified companies "insuring the legality of wood material" with mean rank of 4.4 was supported by 90% of respondents as of high importance, furthermore "improved image of the enterprise for stakeholders", "higher interest to certified material from customers", "better access to demanding markets" and "improved competitiveness of wood materials" was supported by

majority as of high importance with mean rank of 4.0, 3.9, 3.7 and 3.9 respectively. The respondents from non-certified companies also indicated the importance of both "insuring the legality of wood origin" and "additional sales of wood materials" with the mean rank of 4.4 was supported by 86% of respondents as of high importance. In addition "improved image of the enterprise for stakeholders", "improved trading with foreign forest industry companies", "higher interest to certified products from the customers" and "improved occupation health and safety issues" with mean rank of 4.2, 4.1, 4.0 and 3.6 respectively. In contrast certified respondents pointed as least important "advantages in bank loans", "easier functioning with the authorities", and "better access to leasing contract" with the mean rank of 1.8, 2.0 and 2.3 respectively.

Table 2. Benefits associated with forest certification.

Factors	Company type	M****	S.D.	Importance of benefits					
				low		moderate		high	
				n	%	n	%	n	%
Better access to demanding markets	C**	3.7	1.384	3	14	6	29	12	57
	NC***	3.4	1.697	5	36	1	7	8	57
Increased export share of wood products	C**	3.3	1.155	3	14	8	38	10	48
	NC***	3.2	1.369	5	36	1	7	8	57
Improved competitiveness of wood products on the market	C**	3.9	0.964	1	5	9	43	11	52
	NC***	4.0	0.961	0	0	6	43	8	57
Improved image of the enterprise for stakeholders	C**	4.0	0.775	0	0	7	33	14	67
	NC***	4.2	0.802	0	0	3	21	11	79
Insuring the legality of wood material	C**	4.4	0.590	0	0	2	10	19	90
	NC***	4.4	1.151	1	7	1	7	12	86
Improved trade with foreign forest industry companies	C**	3.5	1.078	2	10	8	38	11	52
	NC***	4.1	1.269	2	14	1	7	11	79
Improved occupation health and safety issues	C**	3.2	1.167	7	33	5	24	9	43
	NC***	3.6	0.842	2	14	2	14	10	71
Increased efficiency of forestry operations	C**	2.4	1.076	9	43	9	43	3	14
	NC***	3.1	0.663	2	14	8	57	4	29
Additional sales of wood products*	C**	3.5	1.078	2	10	9	43	10	48
	NC***	4.4	0.745	0	0	2	14	12	86
Secured demand for the products	C**	3.7	1.065	3	14	8	38	10	48
	NC***	3.9	0.864	0	0	6	43	8	57
Long-term sustainability on domestic market	C**	3.3	1.111	3	14	10	48	8	38
	NC***	3.4	0.633	0	0	10	71	4	29
Higher interest to certified products from the customers	C**	3.9	1.062	3	14	5	24	13	62
	NC***	4.0	0.784	0	0	4	29	10	71
Better access to leasing contracts*	C**	2.3	1.189	15	71	2	10	4	19
	NC***	3.0	0.877	5	36	4	29	5	36
Advantages in bank loans	C**	1.8	0.889	17	80	3	15	1	5
	NC***	2.4	1.158	5	36	7	50	2	14
Easier functioning with the authorities	C**	2.0	1.140	17	80	2	10	2	10
	NC***	2.6	1.336	5	36	4	29	5	36

* $p<0.05$
**certified companies, n=21
***non-certified companies, n=14

****mean ranking are based on a five-point scale, where 1= very low and 5 = very high importance

Primary barriers associated with forest certification are shown in Table 3. The significant difference between two groups of respondents has been found for "low level of preparedness of management system" and "economic inaccessibility". Even though no significant difference has been found in attitudes in many studied categories between the groups, the importance of barriers and mean ranking associated with forest certification help to identify the most and least important factors. Thus, among certified companies "voluntariness of certification" received the highest rank of 3.6 supported by 57% of respondents as of high importance. Other factors were ranked by certified companies as of moderate and low importance. The respondents of non-certified companies indicated the highest importance of "economic inaccessibility" supported by 79% with mean rank of 3.9. In addition to that "voluntariness of certification", "absence of legal requirements from customers" and "low level of preparedness of management system" was supported by majority with mean rank 3.6, 3.5 and 3.3 consequently. In contrast both groups indicated "subjectivity of the assessment by auditing companies" and "unawareness of top management" as of least importance.

Table 3. Primary barriers associated with forest certification.

Factors	Company type	M****	S.D.	Importance of barriers					
				low		moderate		high	
				n	%	n	%	n	%
Absence of competitive advantages	C**	2.7	1.028	8	38	9	43	4	19
	NC***	3.3	0.611	1	7	8	57	5	36
Absence of legal requirements from consumers	C**	2.7	1.236	8	38	8	38	5	24
	NC***	3.5	0.941	2	14	5	36	7	50
Continuous amendments of the standards	C**	2.9	1.195	8	38	7	33	26	29
	NC***	3.1	0.730	2	14	10	71	2	14
Voluntariness of certification	C**	3.6	1.167	3	14	6	29	12	57
	NC***	3.6	0.852	2	14	3	21	9	64
Unawareness of top management	C**	2.6	1.434	12	57	3	14	6	29
	NC***	2.9	0.917	6	43	3	21	5	36
Economic inaccessibility*	C**	2.5	1.207	11	52	6	29	4	19
	NC***	3.9	0.829	1	7	2	14	11	79
Low level of preparedness of management system *	C**	2.1	1.231	15	71	3	14	3	14
	NC***	3.3	0.726	2	14	6	43	6	43
Subjectivity of assessment by auditing companies	C**	2.6	1.165	9	43	7	33	5	24
	NC***	2.7	1.204	6	43	3	21	5	36

* $p<0.05$

**certified companies, n=21

***non-certified companies, n=14

****mean ranking are based on a five-point scale, where 1= very low and 5 = very high importance

Discussion

The finding suggested that the level of awareness and acceptance of forest certification was sufficient among certified companies and relatively low among non-certified companies; however the study revealed generally positive patterns in attitudes towards certification among both groups of respondents. Low level of awareness has been observed in other parts of the world, such in China (Chen at al. 2011), Malaysia (Ratnasingam et. al., 2008) Canada (Jayasinghe et al., 2007) and the United States (Vlosky et al., 2003). Earlier results from the survey organized by World Wildlife Fund (WWF) revealed the low level of awareness with regards to forest certification among industrial consumers, where approximately 700 respondents mainly in the European part of Russia were interviewed. Only 6.8% of respondents have acquainted with the term of certified products, in addition only 29% of respondents pointed out the importance of legality for the received products (Voropaev 2011). At the same time the respondents of this study indicated the legality of wood origin as of very high importance. Thus, it clearly indicated that the current level of awareness in Russia among forest industry companies is higher than among industrial consumers. It can be explained by the fact that the respondents of this study have been aware of basics of forest certification and some of the specialists were responsible for implementation of certification requirements in the companies. At the same time this study also affirms a need to increase awareness and knowledge related to forest certification among forest industry companies. This could be achieved by addressing the issue among stakeholders involved in forest certification, e.g. non-governmental organizations, local government, certification body, local people, Russian FSC Council etc. The arranged seminar and/or training sessions could provide a platform to express opinions, exchange the views and experience.

The study indicated the difference between two groups of respondents, when it comes to the factors affecting the initiation of forest certification. According to Aaker 2001 the responses regarding the fact of the introduction the certification process can be associated with the strategy type, when certified companies have a tendency to be more proactive and non-certified companies to have a reactive market strategy. Similar results were found in this study.

The comparison of opinion between two groups of respondents has its complicity, since both groups have different vision towards forest certification, for example, representatives of non-certified companies had not yet adopted the forest certification, and consequently those responses below indicate more of expectations, when the respondents

from certified companies indicate more of actual experiences. It can be illustrated by the fact that non-certified companies are optimistic with economic benefits of forest certification, when the actual experience of certified companies proved it to be less optimistic. Similarly it applied to the returning of long-term investments. However, most of the responds justifying the benefits and barriers of forest certification appeared to be statistically insignificant and were very alike.

The study indicated the importance of legality of wood origin. However the respondents might have difficulties to explain the possible effect and required measures from the company's side when it comes to the means of addressing illegal logging and related trade at EU level with Russia. The procedures of new trade regulations are not yet clear; however the deadline for full enforcement is in March 2013 (EU Decree 995/2010). The reasonable question might be: is it enough to be certified in order to fulfill the criteria of the EU? Definitely the promoted tool for trade regulations must be promoted to all participants in order to understand the minimum performance level.

The respondents of this study were generally optimistic about the certified wood markets and believed that it had potential to grow, especially for export-oriented companies. At the same time respondents were more skeptical towards its potential development domestically. Despite that fact there are recently introduced incentives to increase amount of certified wood products on Russian market. As an example the official governmental body responsible for the construction of Olympic facilities in upcoming Winter Olympic Games in Sotchi launched in 2011 the "green standards" which covers also utilization only certified wood products in all constructions (Olympstroy, 2011). Nevertheless the lack of communication between the parties might be a cause for underestimation of domestic potential among the groups of respondents.

The study also indicates that the largest barrier constraining the potential uptake of forest certification in Russia is the fact that certification is not a mandatory requirement supported by both groups. In addition to that non-certified companies indicated the high importance of economic inaccessibility and low level of preparedness of management system, when respondents from certified companies weighted as of low importance. According to a respondents' profile (Table 1) most respondents from non-certified companies represented small-sized companies, on contrary respondents from certified companies represented medium- and large-sized companies. On one hand, economic inaccessibility is associated with the company's size. However it might be indicated by lack of awareness among non-certified respondents, since the participatory fees for certification are charged accordingly

with the company's annual turnover (FSC AAF policy, 2011). On the other hand larger companies tend to have quality management systems in place, so they are likely to pay lower costs than smaller companies when implementing the certification (Vidal et al., 2005). It is also supported by the study aimed to access the impact of forest certification at corporate level in N-W Russia (Golovina, 2009). Similarly it is also associated with initially low level of preparedness of management system.

Conclusion

This study indicated that there is a general positive attitude in combination with indicative patterns of gaps in understanding and limited awareness with the regards to forest certification, especially among non-certified forest industry companies.

Only 35 interviews were conducted to assess the attitudes of forest certification among forest industry companies. Thus, finding of the study represent the perception of a limited sample in North-Western Russia. At the same time the studied companies represented 70% of market share in terms of wood consumption in North-Western part of Russia

The study indicated the difference between two groups of respondents, when it comes to the factors affecting the initiation of forest certification. Thus, among non-certified company this process is driven by external factors, mainly associated with market demand and request from stakeholders. While the respondents from certified companies are affected by both internal and external factors, in particular, internal corporate policy and market demand. It has a consequent implication on strategy type, when certified companies tend to have more proactive and non-certified company reactive market strategy.

Identification of the main driving forces influencing on the development of forest certification revealed the dissimilarities in attitudes among two groups of respondents. Hereby, many of respondents from non-certified companies in this study rationally expected to gain economically as a result of forest, besides that this group was more optimistic to identify the certification as a tool to eliminate illegal wood and return the long-term investments. Nevertheless both groups were united in opinions and identified general market demand as a major force affecting the development of forest certification.

The study revealed statistically significant dissimilarities in responses associated with benefits of forest certification, when it comes to discussion of access to leasing contract and additional sales of wood products. The legality of wood origin, a company's image and competitiveness of wood products were identified as of higher importance among other benefits associated with forest certification. The respondents were cautious to associate certification with long-term sustainability on domestic market. However the large domestic

market could also be a powerful catalyst to promote the utilization of forest certification among forest industry companies in Russia.

The analysis of the barriers associated with forest certification revealed statistically significant differences in responses to economic inaccessibility and initially low level of preparedness of management system, where non-certified companies recognized those factors as more feasible. The fact that certification is not mandatory requirement was recognized by both groups of respondents as a primary barrier constraining the development of forest certification associated in Russia. In addition both groups indicated the subjectivity in assessment and awareness of the company's top management as of least importance.

When attempting to assess the attitudes among forestry companies and to predict the development of forest certification several factors need to be taken into account, including the possibility of governmental incentives and support; actual market demand; communication of benefits and barriers among stakeholders, and customer recognition. For the time being Russian forest industry companies appeared to be under the process of involvement of forest certification in their business model.

The study suggested the need for further research with regards to forest certification in Russia to increase the awareness of the stakeholders involved in the certification process and to develop a coherent conceptual framework for multi-purpose analysis. The topic may receive more attention as forest certification could become a part of compulsory procedure due to enforcement of EU Regulation and as a prerequisite for placing wood products to international market for Russian export-oriented forest industry companies.

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