

## The Perspective of Forest Certification in South Korea: Case Study of Questionnaire for Forest Products Manufacturers and Consumers

Seong Youn Lee, Rin Won Joo and In Yang<sup>1\*</sup>

*Division of Forest Economics, Department of Forest Resources Management,  
Korea Forest Research Institute, Seoul 130-712, Korea*

<sup>1</sup>*Research Institute for Agriculture and Life Sciences, Seoul National University, Seoul 151-921, Korea*

**Abstract:** This study was conducted in the spring of 2005 through personal interviews to examine the opinions of forest products manufacturers and consumers about the perspective of forest certification in South Korea and to characterize those consumers who expect the activation of a forest certification system in South Korea. Study results indicated that consumers showed more positive aspect for the activation of forest certification than forest products manufacturers. Respondents who had a negative view for establishing a forest certification system in South Korea pointed out a lack of customers' demand for certified wood products as the most important reason. Results also showed that, even when a forest certification system would be introduced as a possible policy for helping to attain sustainable forest management, it would take at least 5 to 10 years to establish a forest certification system in South Korea. To facilitate the establishment of the system, many respondents suggested that an increased public awareness of forest certification systems was the most required precedent condition, and government for manufacturers and forest management association for consumers had to certify forest management practices as a competent organization. A profile of consumers who expected the activation of a forest certification system would describe in relative terms as the highly educated female who interviewed in the city of Seoul and of the 20 age bracket. Although there were an increased public awareness and positive perspective of forest certification by consumers and forest products manufacturers, it is required to arouse much more interest of consumers about the system.

**Key words:** forest certification, South Korea, certified wood products, forest products manufacturers, consumers, characterization

### Introduction

People in different parts of the world are using their forests in many different ways. For instance, forests provide employment, homes, timber resources, protection from floods and erosion, fuel wood or simply recreation. However, world forests are still not fairly protected from destruction and poor management regardless of several protection programs and policies around world (Scarse *et al.*, 1999). In response to the global deforestation, forest certification was initially developed as a voluntary program in United Nations Conference on Environment and Development in 1992.

Forest certification is a system for communicating to consumers that a forest product is originated from forests

being managed in a sustainable manner. Two specific goals of the certification system are to improve forest management practices and to ensure market access to consumers who can choose to purchase forest products based on the criteria of certification (Ruddell and Stevens, 1998). To achieve the first goal, forestland owners should receive a price premium by way of compensation for the certification cost of their primary products. The second goal will be accomplished by market-based incentives, a price premium and an increase in market share. In other words, forest product industries are motivated to sell certified wood products by the incentives. Consumers are willing to pay a price premium for the certified wood products in support of sustainable forest management (Stevens *et al.*, 1998). Subsequently, the positive perception of consumers on the forest products company, which participates in a certification system, will give rise to increase the market share of certified

\*Corresponding author  
E-mail: dahadad2000@yahoo.com

wood products.

Although there are different approaches to inform consumers of how a wood product is certified, it is commonly used to be determined the sustainability of forest management practices by an accredited certifying organization. The Forest Stewardship Council (FSC) is a nongovernmental, international organization that sets certification standards for numerous certifiers. The mission of the FSC is to accredit certifiers on a voluntary basis and to facilitate development of forest management standards, such as management planning, plantation management and environmental impact (Ozane and Vlosky, 1997).

Forest certification is a globally growing trend toward more participants. Environmental groups and many companies in the wood products industry have led such movement. Therefore, the perception and awareness of people on forest certification have gradually been increased, and the demands of wood products made with certified forests were increased in the markets of forest products (Lee et al., 1999). For example, the demand for certified wood products in forest products market of United Kingdom (UK) is worth over US\$ 4 billion per year, and the cost reached at 18% of the total UK timber market (Scrase et al., 1999). In addition, markets for certified forest products are growing rapidly in Western Europe and North America, and are also starting to develop in Asia.

In the forest products market of South Korea, any certified forest products had hardly been demanded so far, and quite a few of forest products manufacturers were involved in manufacturing or purchasing certified wood products (Joo and Lee, 2000). Furthermore, many companies in forest products industry have questioned the future of forest certification. However, Mater (1995) predicted that the discussion of forest management and forest certification was increasing and would continue. In addition, there has recently been a growing interest in forest certification in South Korea according to the expansion of global markets for certified forest products. Therefore, we questioned forest product manufacturers and consumers 1) to examine the perspective of forest certification in South Korea and 2) to profile those customers who expect the activation of a forest certification system in South Korea.

## Methodology

To investigate the perspective of forest certification in South Korea, we surveyed the opinion of forest products manufacturers and consumers through personal interviews. The personal interview was carried out to maximize response rates. Data collection was performed in the spring of 2005. The forest products companies used

in this study were taken from the directory of wood products industry in South Korea (KFRI, 2004). Thirty-five sawmills, 24 furniture companies and 8 wood panel industries were interviewed for a total of 500 sawmills, 300 furniture companies and 17 wood panel industries. Most of the respondents were in the headquarter position to influence the sales of wood-based materials and their products. For consumers, 198 persons were participated in this survey. The interviewees were comprised of 91, 55 and 52 persons in the city of Seoul, Pusan and Daegu, respectively. Interviews were conducted at the paths leading to the top of mountains in each region. Based on those consumers who could buy a forest product in the market, only consumers over 18 years old were selected randomly. The profiles of the interviewees were as follows: male (56%) slightly outnumbered female (44%) in the sample. The mean age of interviewees was 35, and the proportion of them by age group was 35%, 36%, 26% and 3% for 20, 30, 40 and over 50 age brackets, respectively. One hundred nine interviewees (55%) obtained a college degree, and 45 interviewees (23%) is a college student. Another 44 interviewees (22%) received a high school education or less.

We compiled a three-page questionnaire. Due to the lack of information about forest certification, it was necessary for respondents to define forest certification systems. In the cover page of our questionnaire, forest certification was defined as a market-based tool for improving forest management by giving a price premium to forest products companies or forestland owners, which produce a product or timber from sustainable, well-managed forests (Vlosky and Ozane, 1997). Questions included in the questionnaire were as follows: interviewees were asked whether the forest certification will be activated in South Korea, what the reason is if it is expected that forest certification systems will not be activated in South Korea. In addition, if forest certification systems will be activated in South Korea, the required time and precedent conditions for the activation of forest certification, and the competent organization determined the sustainability of the forest management practices.

Mean responses were used to analyze the data on the questions for the perspective of forest certification in South Korea. An analysis of variance (ANOVA) was also used to describe the consumers' opinion of forest certification (SAS, 1999). When a significant effect was detected, the differences among the means were analyzed by the multiple significant difference test (t-test) using  $P < 0.05$ .

## Results and Discussion

### 1. Outlook of forest certification systems

Thirty-one (46%) of 67 forest products manufacturers

predicted that forest certification would be activated in South Korea as a market-based tool for identifying well-managed forestland. Interestingly, only 26% of sawmillers indicated that they expected the activation of forest certification in South Korea. When compared with furniture (63%) and wood panels manufacturers (88%), sawmillers had a negative view to be activated a forest certification system in South Korea. These results might be closely related to the future of forest products industries. For instance, most of sawmillers expected that the overall prospect of sawmilling industry was unable to move upward for lack of sufficient demand. Thus a forest certification system might not be activated, even though introduced in South Korea. On the other hand, furniture and wood panel manufacturers thought that a forest certification system might be a recognized initiative in the wood industry of South Korea. Of the 198 consumers interviewed in this study, 146 (74%) indicated that forest certification systems would and should be activated in South Korea. Based on the results, consumers had more positive attitudes to the activation of

forest certification systems than forest products manufacturers.

Thirty-three manufacturers (54%) and 52 consumers (26%) had a negative expectation to activate forest certification systems in South Korea. Figure 1 shows the reason why forest certification is not activated in South Korea. For forest products manufacturers, the first important reason was that an additional cost for certification was a prohibitive factor (33%). The second and third reasons were lack of customers' demand for certified wood products (31%) and publicity about forest certification (22%). Other reasons were the difficulty of market accessibility (8%) and lack of trust for certified products (6%). With regard to consumers' opinions, 31 consumers (58%) pointed out that the lack of customers' demand for certified products made the difficulty of establishing forest certification systems in South Korea. The second important reason was the higher price of certified products (23%). Other reasons in the 6 to 7 percent range were: lack of publicity about forest certification; the difficulty of market accessibility; and

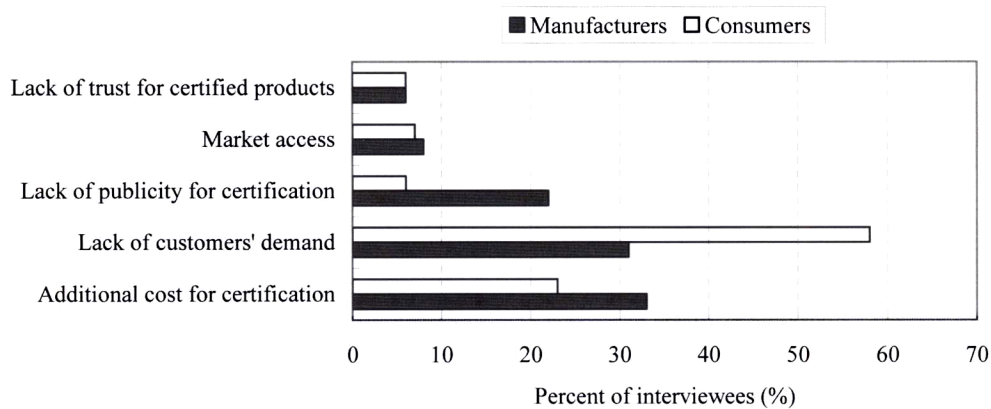


Figure 1. Interviewees' opinion why forest certification will not be activated into South Korea.

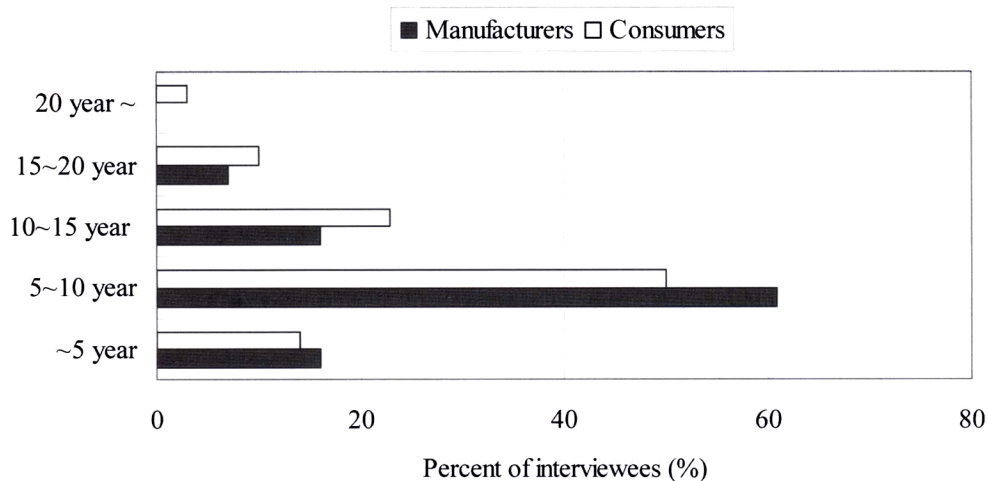


Figure 2. Interviewees' opinion when forest certification will be activated in South Korea.

**2. Time required for the activation of a forest certification system**

Figure 2 indicates the opinions of forest products manufacturers and consumers when forest certification systems will be activated in South Korea. Among manufacturers in the sample, 61 percent responded that forest certification systems would be activated between 5 and 10 years. Twenty-three percent of manufacturers indicated that it needed more than 10 years for the activation of forest certification systems. Only 16 percent of respondents answered that forest certification systems would be activated within 5 years. Similarly, 50 percent of consumers responded that it would take 5 to 10 years to activate forest certification systems. The answers, which it requires more than 10 years for forest certification systems to be vigorously established, accounted for 36 percent in the opinion of consumers. Twenty respondents (14%) answered that forest certification systems would become established within 5 years. From these results, the activation of forest certification system in South Korea might not happen as soon as the system is introduced.

**3. Precedent conditions for the activation of a forest certification system**

Figure 3 shows the precedent conditions for activating forest certification systems in South Korea. Among the 31 manufacturers who expected to be activated the certification systems in South Korea, the first most important condition was the publicity of forest certification system (55%). The second most important condition was that price premium for certified products was guaranteed in the market of their products (23%). Another important condition (13%) was that government should assist the additional cost for certification. Other conditions were: certified products should occupy a greater share of the home market (6%) and certified wood-based materials, which were required for the manufacture of their products, need to be supplied continuously (3%). In case of consumers, 59% of them responded that they emphasized the need of publicity for forest certification systems. The next most important condition was the financial assistance of government for the purchase of certified products (25%). Others were: the extension of market share (8%); the continuous supply of certified

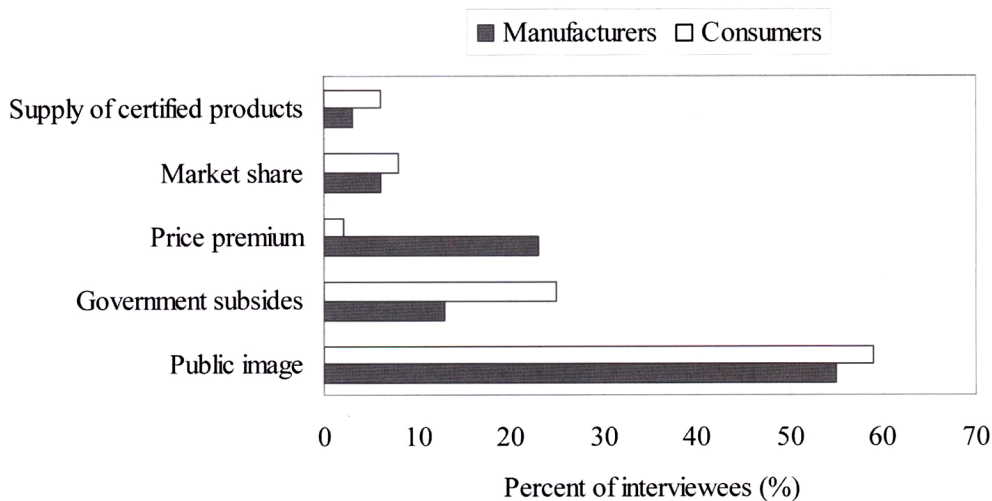


Figure 3. Interviewees' opinion on the precedent conditions for the activation of forest certification in South Korea.

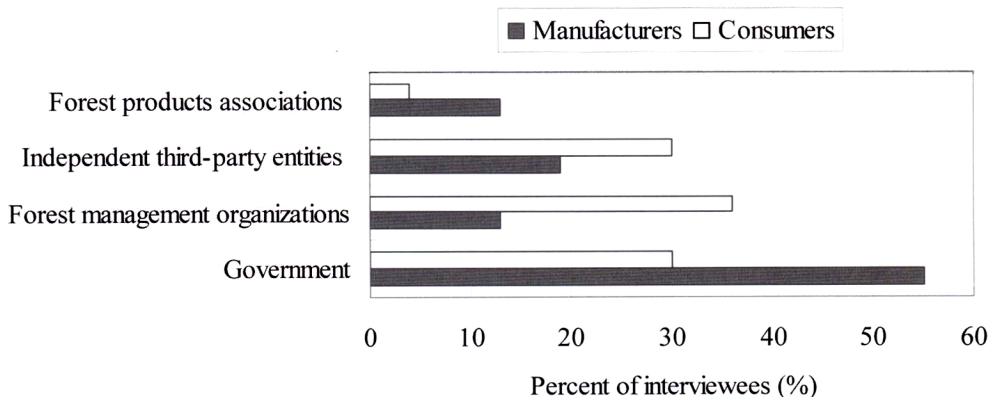


Figure 4. Interviewees' opinion which organization manages forest certification systems in South Korea.

**Table 1. Comparison of consumers who expect the activation of forest certification systems in South Korea by demographic variables.**

Variables	Total Interviewees	Number of persons <sup>a,c</sup>	Gender <sup>b,c</sup>	
			Male	Female
Total	198	146 (73%)	76 B (68%)	70 A (80%)
Region (p=0.02)	Seoul	63 B (69%)	26 (34%)	37 (52%)
	Pusan	42 A (76%)	29 (38%)	13 (19%)
	Daegu	41 A (79%)	21 (28%)	20 (29%)
Age (p=0.01)	20-29	52 A (75%)	20 (26%)	32 (46%)
	30-39	56 A (79%)	25 (33%)	31 (44%)
	40-49	35 B (67%)	28 (37%)	7 (10%)
	50-	3 C (50%)	3 (4%)	0 (0%)
Education level (p=0.02)	High school graduates	28 B (64%)	14 (18%)	14 (20%)
	College students/associate college graduates	32 A (71%)	12 (16%)	20 (29%)
	University graduates	86 A (79%)	50 (66%)	36 (51%)

<sup>a</sup>The number in parenthesis means the proportion of interviewees who predict that forest certification systems will be activated in South Korea.

<sup>b</sup>The number in parenthesis means the proportion of male or female who predicts the activation of forest certification systems in South Korea in the basis of demographic variables.

<sup>c</sup>Means within a column or row followed by a same letter are not significantly different at p=0.05 (Multiple significant difference test).

products (6%); and the stabilization of price for certified products (2%).

#### 4. Trusted organization that determines the sustainability of the forest management practices

Forest products manufacturers and consumers were asked which organizations wood products purchasers would trust to certify forest management and harvesting practices (Figure 4). Government, forest management organizations, independent third-party entities and forest products associations were included in answers of this question. For forest products manufacturers, government (55%) was the organization most trusted to certify forest management practices, following by independent third-party entities (19%) and forest management organizations (13%). In case of consumers, forest management organizations (36%) were the organization most trusted, followed by independent third-party entities (30%) and government (30%). Forest products associations were the organization least trusted to certify forest management practices both in the groups of forest products

manufacturers (13%) and consumers (4%). As a whole, government was seen as the most trusted among all organizations included in this study. In the results of Vlosky and Ozanne (1997), government was the organization least trusted to certify forest management practices. The contrary results might indicate that Korean have generally a general trust for government and a desire for the financial assistance of government.

#### 5. Characterization of consumers who expect the activation of a forest certification system

Table 1 provides a demographic comparison of consumer groups who predicted the activation of forest certification systems in South Korea. The characterization of the group was explained demographically by some descriptions. Female thought more positively about the activation of certification systems than male did (p=0.01). Regionally, interviewees who examined in Daegu (p=0.01) and Pusan (p=0.01) predicted more affirmatively for activating the certification systems than those in Seoul, but there was no significant difference between

the regional groups. From the comparisons of age groups, 20 and 30 age brackets were the highest groups who predicted for the activation of the certification systems, followed by 40 age bracket ( $p=0.02$ ). In addition, the prediction of 50 age bracket, which is the oldest age bracket examined in this study, was significantly lower predication than that of 40 age bracket ( $p=0.04$ ). By educational levels, high school graduates gave less affirmative answers for the activation of the certification systems than university graduates and college students/associate college graduates ( $p=0.01$ ). However, no significant difference was found between the two groups ( $p=0.28$ ).

Overall, the highly educated female who interviewed in the city of Seoul and of the 20 age bracket predicted the most optimistically that forest certification systems would be activated in South Korea. In case of male, the group of the 40 age bracket, university graduates and Pusan-area interviewees took the most optimistic view for the activation of forest certification systems in South Korea.

### Conclusion

Results of this study indicate that consumers (74%) predicted more positively the activation of forest certification than forest products manufacturers (47%). The most important reason why a forest certification system would not be established in South Korea was a lack of customers' demand for certified wood products. Other reasons were an additional cost for securing and maintaining a forest certification and a lack of publicity about forest certification systems. Of two types of interviewees, 61% of forest products manufacturers and 50% of consumers estimated that it takes at least 5 to 10 years to establish a forest certification system in South Korea. On average, about 60% of interviewees responded that an increased public awareness of forest certification systems was the most required precedent condition for the activation of the system. Government for manufacturers and forest management association for consumers were seen as the most trusted organization to certify forest management practices. It was impossible to draw a profile of consumers who expect the activation of a forest

certification system, we can describe in relative terms as the highly educated female who interviewed in the city of Seoul and of the 20 age bracket. Although this study is limited by its inability to generalize to the South Korea population as a whole, the results of this study provide a direction for policy makers and forest products companies to frame a new policy relating to forest certification or to make strategic marketing decisions.

### Literature cited

1. Joo R.W. and S.Y. Lee. 2000. The potential impacts of recent developments in timber certification schemes on the Korean forest products trade. *J. of Korean Forestry Soc.* 89(3): 368-377.
2. Korea Forest Research Institute. 2004. Korea Forest Service Web pages. <http://www.foa.go.kr/2004>.
3. Lee S.Y., R.W. Joo, and Y.J. Kim. 1999. Recent Development in Timber Certification Schemes. Korea Forest Research Institute. Seoul, Korea.
4. Mater, J. 1995. Certified forest products: Building tomorrow's market today. *J. of Forestry* 94 (10): 16-20.
5. Ozanne L.K. and R.P. Vlosky. 1997. Willingness to pay for environmentally certified wood products: A consumer perspective. *Forest Prod. J.* 47(6): 39-48.
6. Ruddell S. and J.A. Stevens. 1998. The adoption of ISO 9000, ISO 14001, and the demand for certified wood products in the business and institutional furniture industry. *Forest Prod. J.* 48(3): 19-26.
7. SAS Institute. 1999. SAS/STAT user's guide. SAS Institute. Cary, N.C.
8. Scrase H., M.W. Smith, N. Judd, S. Higman, R.Nelson, and J. Jickling. 1999. Certification of forest products for small businesses: Improving access - issues and options. In final report of United Kingdom Department of International Development.
9. Stevens J., M. Ahmad, and S. Ruddell. 1998. Forest products certification: A survey of manufacturers. *Forest Prod. J.* 48(6): 43-49.
10. Vlosky R.P. and L.K. Ozanne. 1997. Forest Products certification: The business customer perspective. *Wood and Fiber Science* 29(2): 195-208.

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