Survey and Analysis of the Supply Chain for Mexican Certified Wood Products

Michael V. Russo – University of Oregon
Santiago Lobeira – Sustenta Soluciones
March 1, 2006

This report provides the results of original market research on the supply chain for Mexican certified wood products. Our goal was to appreciate the extent to which certification "followed" the wood as it made its way down the product stream. This would allow us to gain insights into whether or not wood was being "commingled" with non-certified wood, a practice that would destroy any chance that certification might have to secure a price premium for sellers.

Three types of organizations were surveyed. The first, certified forest mills, are associated with ejidos or communities that fell and saw wood into lumber and intermediate products. Some also manufacture final goods from this wood. The second type of organization was broker operations, who purchase primary lumber from certified forest mills and then resell these products downstream. The final type of organization was manufacturers.

Methodology

Survey questionnaires were developed to obtain information about these important factors in the market for certified wood:

- the extent of vertical integration
- the nature of the intermediate purchasers of wood products
- whether or not any wood products were being exported

In addition, we asked some open-ended questions designed to obtain information on what strategies for promoting certified wood and products were employed by respondents, as well as what governments and non-governmental organizations might do to assist efforts. We also asked respondents to name overall trends that were influencing their industry that did not depend on the certification issue.

Surveys were administered in late 2005 and early 2006. The appendix contains copies of the questionnaire used for each type of organization. We began with the certified forest mills, and acquired information about the downstream organizations from them. The sample of the mills comprises more than half of certified mills in Mexico. Thus, it is likely to be representative of all of those mills. But despite very diligent efforts, we were only able to obtain completed surveys from 5 and 7 brokers and manufactures, respectively. The responses from these organizations are of interest and will be discussed. In theory, they might be representative. But the reader should be cautious in accepting these results at face value. Further, as is true of all self-reported data, the accuracy depends on the willingness of respondents to provide honest answers to the questions we asked.

Certified Forest Mills

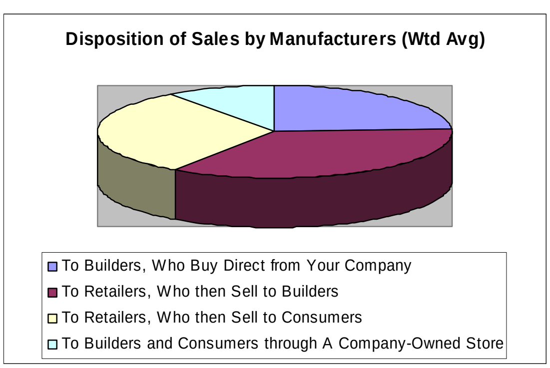
As of February, 2006, there were 44 certified forest mills in operation. Our sample of 17 respondents thus represents 55% of certified operations. This section reviews important findings about these organizations.

Product Quality

Respondents that chose to comment on the quality of Mexican wood are unanimous in their appraisal of the quality of the wood coming from these forests. Although Mexican pine is not a hardwood, it is harder than American pine and thus slightly more desirable in higher uses such as furniture. It is assessed as being very high quality wood. Especially as compared to the major importer from Chile, the quality is superior. An important issue, though, is discussed in some depth by the report of Paul Fuge. This is that grading and yarding practices must be addressed if the quality of wood is to be maintained. Either undergrading the wood or poorly caring for the wood once it is cut are significant threats to mills capturing the full value of the quality of their wood.

Small Size and Low Level of Vertical Integration

Compared with norms in other countries, the Mexican certified forest mills are small, with an average of 136 employees. The average amount of wood harvested, 33,000 cubic meters, also is relatively small. These operations have stayed small, perhaps as a result of their social mission, which is intimately tied to local welfare. Whether due to their small size or some other factors, very little vertical integration is in evidence in the industry.

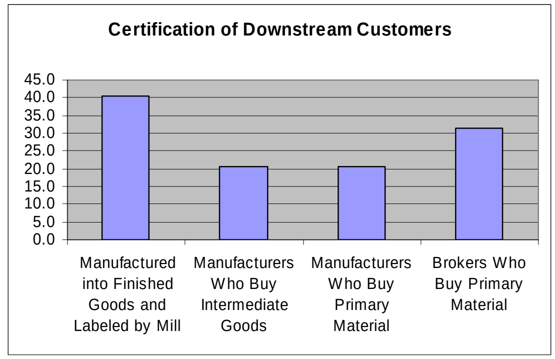


The chart at the left shows that the vast majority of wood—86.5%—is not processed beyond lumber by mills, but rather sold downstream where value-added activities are performed (43.5% to brokers and 43.0% to manufacturers). Only 2% of harvested, certified wood is transformed into finished goods. Only 11.5% is transformed into intermediate goods.

Downstream Certification

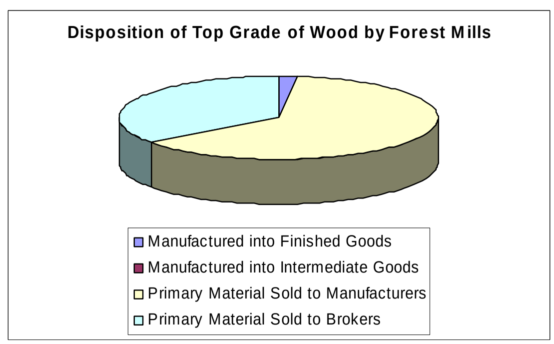
Once sold for downstream disposition, an important question is what happens to the wood—does the certification follow the wood, or is the wood blended with supplies from non-certified forests? We explore this question below. One key part of this question is whether or not the organizations to which the certified forest mills sell products are themselves certified.

The chart at the right provides information on the extent to which downstream customers of certified forest mills are certified. These results came from direct questions, for which in many cases the response was that the certified forest mill was unsure. This indicates that these figures overstate the level of downstream certification.



Recall that the first chart showed that the vast majority of the wood in this segment of the industry is sold as primary material. This is indicated by the right-most bars. Taking the percent of product sold to each customer and the percent of certification into account, we can estimate that nearly 75% of the wood “loses” its certification upon being sold by the certified forest mills.

This chart provides a sobering footnote to this analysis. It reports the results of a question designed to ascertain the disposition of the very top grade of wood. This wood, described by consultant Paul Fuge as “essentially a perfect board with out defect, knots, wane, or stain” is generally sold downstream and the value of certification vanishes.



No Export Activity

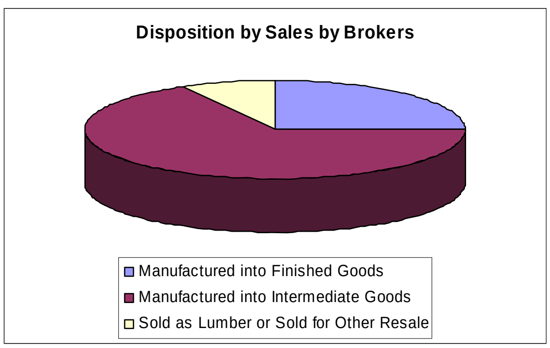
As a final and potentially important note, virtually no wood is exported from certified forest mills. This is both a great source of lost value and potentially an important area for revenue growth. For the latter to be created, significant new competencies will have to be established, either at the mills individually or by creating consortia to export wood and wood products. The responses of the brokers, to which we now turn, suggest that export markets may be a significant source of new sales for certified forest mills.

Wood Sold by Mills to Brokers

As noted above, brokers purchase 43.5% of the wood produced by surveyed mills. Purchases are of sawn lumber that has not been further processed. It must be borne in mind again that we have responses from only six of the 16 brokers listed by certified forest mills in their questionnaires. The results nonetheless are worth discussing.

In our sample, the brokers purchased an annual average of 14,600 cubic meters of lumber from all sources. Since there are many of these organizations, purchasing an amount on average less than half of the mills average output of 33,000 cubic meters, it is unlikely that they possess market power in theory. In practice, however, the ability of the mill to obtain the best prices for lumber would depend on the extent of their information about marketplace trends, the number of alternative suppliers with which they work, and their need for operating capital. In this latter case, the ability of the brokers to provide immediate cash flow to the mills may be a significant bargaining tool in their favor.

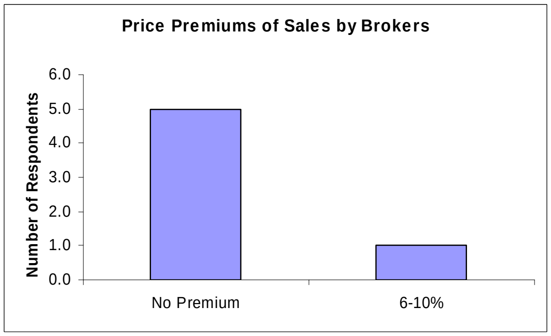
Disposition of Wood



The chart at the left shows what happens to wood purchased by brokers. Only a quarter is manufactured into final products, and the majority (67%) is made into intermediate products. This further shows that certified wood is moving through many hands prior to reaching the final consumer.

Prospects for a Price Premium

An important question at this point is whether or not brokers are the organizations capturing the price premium for certification, not certified forest mills. Previous work by Mota Villanueva (2004) found that 89% of certified forest mills did not receive price premiums for their wood. Are the brokers, as a group, capturing this value-added?



This chart suggests that with one exception, the brokers are receiving no price premium for their wood. There might be some strategic reasons for the brokers to provide the responses that they did. But assuming these are accurate and reflect their experience with certified wood, prospects for price premiums again appear to be limited.

Export Activity

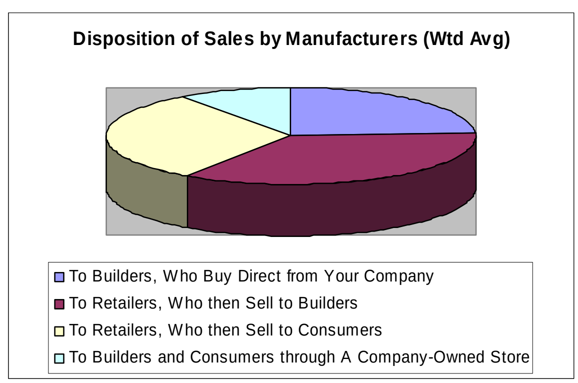
However, there is one very important clue that is contained in the responses. The one broker that reports enjoying a price premium is located in Quintana Roo. This company exports not only to the United States but also to Germany. Though it is from a single organization, we again see evidence that the development of export capabilities may be critical to capturing value from certified wood products. It likely is not a coincidence that this broker also reports the highest percentage of customers that require certified wood—80%. This in turn suggests the development of another capability, the development of customer niche markets that value certified wood. Should this experience generalize, it could be encouraging. It should be noted, however, that this broker's success sells mahogany, not the pine more typical of Mexican forests.

Wood Sold by Mills to Manufacturers

In this section, we discuss findings from a survey of manufacturers that purchase mill wood directly (that is, without the wood going through the hands of a broker or other organization). We were able to complete questionnaires for seven of the manufacturers, out of 30 who were named in the certified forest mill questionnaire. Thus, the same cautions as with the sample of brokers apply.

Disposition of Wood

The chart at the right shows disposition of products post- manufacturing. For manufacturers, more products are sold to final consumers, though an appreciable amount still is sold through retailers (66%). This represents another possibility for the loss of certification. Indeed, this may be taking place: only two of the seven manufacturers report labeling their product as certified.



Prospects for Price Premiums

Information on the ability to capture price premiums was very limited. Of the two respondents that provided information, neither reported receiving a price premium for certified wood products. The two are worth describing in a bit more depth, as they are the only two companies that export products. The first exports 15% of its products to the US and the second exports 15% to the US and Portugal. In both cases, the goods are labeled as certified.

Conclusions

- Wood products produced by the certified forest mills typically pass through many hands before arriving in the hands of the ultimate consumer.

- At the time of leaving the mill, perhaps only 25-35% of the wood retains its certification. The rest is commingled with non-certified wood.

- The idea of a chain of custody running from the forest to the consumer is attractive, but is unlikely to materialize from market demand alone. This is especially true in Mexico.

- While obtaining a price premium for certified wood is not impossible, it may require the certified forest mills to exert themselves further down the product stream. Unfortunately, in general the mills lack the distinctive competencies and perhaps the scale to do this.

- There may be an opportunity for certified forest mills to create joint ownership of a brokering service who can represent their interests better than is the current norm.

- There are significant prospects for export markets for this wood. It is possible that a price premium may be captured in countries where “green consumers” are plentiful and public policy supports environmental causes.

Telephone Interview Protocol for Certified Forest Mills

Start by contacting the Smartwood in Oaxaca. Ask for Ariadna Salvatierra Garcia, asalvatierra@ra.org, (951) 516-32-44 or (516)-11-25 or (516)-82-87. Obtain Smartwood's spreadsheet containing information on each company.

You'll want to call ahead to each operation and make an appointment to speak with the manager. After that, it is important to do what you can to read through the firm's website and understand all that you can about the operation. This will make you more knowledgeable and allow you begin the interview with a comment that is more social in character, such as about the beauty of the town where the firm is.

We've provided a script for you to use. It is important for respondents to appreciate that this research will be of use in providing critical information that will then support the goal of understanding the supply chain for certified wood and making recommendations to support broadening demand for certified wood and finished goods.

Prior to the interview, include information not on spreadsheets for these items (be sure to include the name also, so that we can merge your information with the spreadsheet data).

Name of organization ___________
Name of person interviewed _________________________
Number of employees, on average ___________
Approximate amount of wood harvested last year, in cubic meters ___________
Primary type of wood harvested (for example, pino)____________

Thank you again for agreeing to speak with me today. The information that you provide to me will help the research team, which is working with the Dr. Carlos Munoz Pena of the Instituto Nacional de Ecología. The team is led by Dr. Bryan Husted of Monterrey Tech and Dr. Michael Russo of the University of Oregon, and is supported by Ms. Eva Fernandez of Smartwood and Mr. Paul Fuge of Plaza Hardwood. Our goal is to understand how to find new markets for certified wood and how to best ensure that Forest Stewardship Council, or FSC, certification follows the wood toward the customer. With a better understanding of this process, we will be able to create a set of strategies that we believe will support your firm's attempts to more successful market your products.

Would you like a copy of our report when it is finished? ______

We are surveying organizations that have FSC certification. I have some questions for you that will provide important information for our researchers as we try to understand what happens to the certified wood as it moves from the forest though the chain of custody and value-added manufacturing steps on the way to market.

0. Begin by obtaining information for the five questions above, if it is not on the Smartwood spreadsheet.

1. The first question we have concerns the disposition of the wood that is harvested by *name of organization here*. I would like to know of the total harvest, about how much goes into each type of next step:
_____ Approximate percent manufactured by *name of organization here* into produtos terminados, such as furniture or plywood?
_____ Of this amount, how much is exported?
_____ Approximate percent manufactured by *name of organization here* into intermediate goods, such as parts that are sold to other companies for assembly or use in manufacturing?
_____ Of this amount, how much is exported?
_____ Approximate percent sold as materia prima to manufacturers
_____ Approximate percent sold as materia prima to intermediarios

(For these next four, if the corresponding response above was 0, skip the question that corresponds to it)

2. Now I'd like to find out what percentage of that first category, what you manufacture into produtos terminados, carries a certification label, tag, or something else that would show the buyer that it is made of certified wood. ______%

3. And of the intermediate goods, what percent of wood is sold to manufacturers that are certified by the FSC? _____%

4. And of the materia prima sold to manufacturers, what percent of wood is sold to manufacturers are certified by the FSC? _____%

5. Finally, of wood sold to intermediaries, we'd like to know what percent of wood is sold to intermediaries that are certified. _____%

6. For this question only, we are especially interested in what happens to the finest grade of wood that you cut. Can you please estimate the percentage of the finest grade that goes to these categories?
______% We manufacture it into produtos terminados
______% We manufacture it into intermediate goods
______% We sell it to manufacturers
______% We sell it to intermediarios

7. We'd like to contact some of the companies and individuals to whom you sell your wood, to ask them a few simple questions concerning certification. We will not discuss any aspect of your commercial relationship with them. If you could give us the name and telephone number of a manufacturer who buys lumber that you've manufactured into intermediate goods, that would help us to understand what happens to the wood after it leaves your hands. Please select someone who represents a typical purchaser, without regard to whether they are certified by the FSC. For this and other categories, all information will be held in confidence.
Name___________________________
Number____________________

8. Now we'd like the name and telephone number of an individual from a company to whom you sell materia prima. Again, please select someone who represents a typical purchaser, without regard to whether they are certified by the FSC
Name___________________________
Number____________________

9. Finally, we'd like the name and telephone number of an intermediario to whom you sell. We will not discuss any aspect of your commercial relationship with them. As before, please select someone who represents a typical purchaser, without regard to whether they are certified by the FSC
Name___________________________
Number____________________

10. (Open-ended) What strategies have you used to market your certified wood? What opportunities do you see?
____
____
____
____
____
____
____

11. (Open-ended) In your opinion, how can government and non-governmental organizations help you enhance markets for your wood products?
____
____
____
____
____
____
____

Thank you very much for your assistance! The information that you have provided will help the Instituto Nacional de Ecología and researchers from Monterrey Tech and the University of Oregon understand how certified wood moves toward markets and what government polices might make sense to enhance markets for your wood. If you requested a copy of the study, we hope to make that available sometime in early 2006.

May we contact you again, should we need additional information?_________

Telephone Interview Protocol for Downstream Organizations - Intermediarios

As before, you'll want to call ahead to each operation and make an appointment to speak with the individual listed as a contact. Explain to them that you received their name and contact information from one of their customers. Try to obtain the name of the organization and check to see if it has a website, so you can learn about the organization.

We've provided a script for you to use. It is important for respondents to appreciate that this research will be of use in providing critical information that will then support the goal of understanding the supply chain for certified wood and making recommendations to support broadening demand for certified wood and finished goods.

Name of person being interviewed ___________________________
Name of community mill/ejido that listed the organization ___________________
Name of organization being interviewed__________________________
Name of person interviewed __________________________
Number of employees, on average ___________
Volume of wood sold in 2004 ______________ (cubic meters)

- -

Thank you again for agreeing to speak with me today. The information that you provide to me will help the research team, which is working with the Dr. Carlos Munoz Pena of the Instituto Nacional de Ecología. The team is led by Dr. Bryan Husted of Monterrey Tech and Dr. Michael Russo of the University of Oregon, and is supported by Ms. Eva Fernandez of Smartwood and Mr. Paul Fuge of Plaza Hardwood. Our goal is to understand how to find new markets for certified wood and how to best ensure that Forest Stewardship Council, or FSC, certification follows the wood toward the customer.

Would you like a copy of our report when it is finished? ______

I have some questions for you that will provide important information for our researchers as we try to understand what happens to the certified wood as it moves from the forest though the chain of custody and value-added manufacturing steps on the way to market.

0. Begin by obtaining information for the questions above.

1. Over the course of the year, of the wood and wood products that you buy, what percentage (by volume) is certified? ______%

2. Do you export any of the certified wood that you purchase? ______%
If yes, what percentage (by volume) ______%
To what country or countries? _________________________________

3. Of the amount of wood that you sell, what percentage (by volume) represents sales to customers who request certified wood specifically or clearly prefer it over comparable non-certified wood? ______%

4. Of the amount of wood that you sell, what percentage (by volume) represents sales to your customers who themselves have environmental certifications? ______%

5. In percentage terms, what average premium do you charge your customers for certified wood that is of the same grade as non-certified wood? (check one)
____ 0% (no premium)
____ 1 to 2 %
____ 3 to 5 %
____ 6 to 10 %
____ other (specify a different percentage)

6. In terms of volume, please give an idea of parties to whom you sell
______% manufacturers of productos terminados (por ejemplo, pisos, puertas, muebles, etc.).
______% manufacturers of productos intermedios (por ejemplo, palos para escoba, madera dimensionada, triplay, etc.)
______% Lumber yards or other intermediate points of sale

7. (Open-ended) Please describe any efforts that you have made to locate buyers that are specifically interested in purchasing certified wood.
____
____
____
____
____
____
____

8 (Open-ended) What strategies have you used to market your certified wood? What opportunities do you see?

____
____
____
____
____
____
____

9 (Open-ended) In your opinion, how can government and non-governmental organizations help you enhance markets for your certified wood products?

____
____
____
____
____
____
____

10. (Open-ended). For this question and the next one, please answer for your industry, without regard to the certification issue. Speaking about your industry in general, what do you believe are the key trends in your industry?

____
____
____
____
____
____

11. (Open-ended). What countries are exporting into Mexico products which most challenge Mexican-made finished products? What aspects of these products made them strong competitors (for example, price, quality, customer service, terms of credit, etc).

____
____
____
____
____
____

Thank you very much for your assistance! The information that you have provided will help the Instituto Nacional de Ecología and researchers from Monterrey Tech and the University of Oregon understand how certified wood moves toward markets and what government polices might make sense to enhance markets for your wood. If you requested a copy of the study, we hope to make that available sometime in early 2006.

May we contact you again, should we need additional information?_________

Telephone Interview Protocol for Downstream Organizations - Manufacturers

As before, you'll want to call ahead to each operation and make an appointment to speak with the individual listed as a contact. Explain to them that you received their name and contact information from one of their customers. Check to see if it has a website, so you can learn about the organization.

We've provided a script for you to use. It is important for respondents to appreciate that this research will be of use in providing critical information that will then support the goal of understanding the supply chain for certified wood and making recommendations to support broadening demand for certified wood and finished goods.

Name of person being interviewed ___________________________
Name of community mill/ejido that listed the organization ___________________
Name of organization being interviewed__________________________
Name of person interviewed __________________________
Number of employees, on average ___________
Volume of purchased wood in 2004 ______________ (cubic meters)

- -

Thank you again for agreeing to speak with me today. The information that you provide to me will help the research team, which is working with the Dr. Carlos Munoz Pena of the Instituto Nacional de Ecología. The team is led by Dr. Bryan Husted of Monterrey Tech and Dr. Michael Russo of the University of Oregon, and is supported by Ms. Eva Fernandez of Smartwood and Mr. Paul Fuge of Plaza Hardwood. Our goal is to understand how to find new markets for certified wood and how to best ensure that Forest Stewardship Council, or FSC, certification follows the wood toward the customer.

Would you like a copy of our report when it is finished? ______

I have some questions for you that will provide important information for our researchers as we try to understand what happens to the certified wood as it moves from the forest though the chain of custody and value-added manufacturing steps on the way to market.

0. Begin by obtaining information for the questions above.

1. Over the course of the year, of the wood and wood products that you buy to use in your manufacturing processes, what percentage (by volume) is certified? ______%

2. Over the course of the year, of the wood and wood products that you buy to use in your manufacturing processes, what percentage (by value) is certified? ______%

3. In terms of sales volume, please estimate what types of products you make and sell
______% productos terminados (por ejemplo, pisos, puertas, muebles, etc.).
______% productos intermedios (por ejemplo, palos para escoba, madera dimensionada, triplay, etc.)

4. In terms of sales volume, to whom do you sell your products?
______% To builders who purchase directly from us
______% To retail outlets for later sales to builders
______% To retail outlets for later sales to consumers
______% Through company-operated retail outlets to builders and consumers

5. Are your manufacturing processes environmentally certified?_______
If so, who is the certifier?
___ FSC (Forest Stewardship Council)
___ Other (please identify)____________________________

If your company is environmentally certified, please answer Questions 6 through 10
If not, skip Questions 6 through 10. and proceed directly to Question 11

6. Are your products clearly labeled as being produced with certified wood?____

7. Please describe how you label your products
____
____

8. Of the wood products that you sell to all customers, what percentage (by sales volume) represents sales to customers who request certified products specifically or clearly prefer it over comparable non-certified wood? ______%

9. Of the wood products that you sell for further manufacturing, what percentage (by sales volume) represents sales to your customers who themselves have environmental certifications? ______%

10. In percentage terms, what average premium do you charge your customers for certified products that are of the same grade as non-certified products? (check one)

____ 0% (no premium)
____ 1 to 2 %
____ 3 to 5 %
____ 6 to 10 %
____ other (specify a different percentage) ______%

11. Do you export any of your products? ______
If yes, what percentage (by sales volume) ______%
To what country or countries? ________________________________

12. (Open-ended) Please describe any efforts that you have made to locate buyers that are specifically interested in purchasing certified wood products.

____
____
____
____
____
____
____

13. (Open-ended) What strategies have you used to market your certified wood products? What opportunities do you see?

____
____
____
____
____
____
____

14. (Open-ended) In your opinion, how can government and non-governmental organizations help you enhance markets for your certified wood products?

____
____
____
____
____
____
____

15. (Open-ended). For this question and the next one, please answer for your industry, without regard to the certification issue. Speaking about your industry in general, what do you believe are the key trends in your industry?

____
____
____
____
____
____

16. (Open-ended). What countries are exporting into Mexico products which most challenge Mexican-made finished products? What aspects of these products made them strong competitors (for example, price, quality, customer service, terms of credit, etc).

____
____
____
____
____
____

Thank you very much for your assistance! The information that you have provided will help the Instituto Nacional de Ecología and researchers from Monterrey Tech and the University of Oregon understand how certified wood moves toward markets and what government polices might make sense to enhance markets for your wood. If you requested a copy of the study, we hope to make that available sometime in early 2006.

May we contact you again, should we need additional information?_________