

## 8. Discussion and Conclusion

This and previous (Seneca Creek 2004, Li et al. 2007) studies have shown that the elimination of illegal logging leads to significant increases in the price and production of wood products in almost all countries without suspicious harvests. The estimated benefits from this study suggest an economic incentive exists for legitimate producers in New Zealand, and other countries, to support policies aimed at reducing illegal logging.

For the New Zealand forestry sector estimates from the Radiata Pine Market Model suggest that the benefit of eliminating illegal logging is a US\$175 million (2.4 percent) to US\$302 million (4.2 percent) increase in the net present value of producer revenue (at 10 percent discount rate, 2008 onwards), depending on the extent of illegal logging eliminated. For the sawmilling sector the estimated benefit is less; US\$96 million (0.5 percent) to US\$143 million (0.7 percent). For the wood processing sector (wood panels to prefabricated housing) estimates from the Global Forest Products Model suggest that the benefit of eliminating illegal logging is US\$880 million (2.4 percent) to US\$2,012 million (5.4 percent). With the higher Russian log export tax, the benefits to the New Zealand forestry and sawmilling sectors would be even larger.

Beyond the direct benefits to the forest industry assessed in this study, the trade distorting effects of illegal logging have potentially significant economic implications at the national level, in terms of lowering investment in forest development. This results in higher carbon liabilities for countries, such as New Zealand. It also reduces the provision of other benefits provided by forests, such as watershed and biodiversity protection. At the global level, trade distortions due to illegal logging likely discourage forest investment that could address global deforestation.

The current main initiatives for reducing illegal logging are the Forest Law Enforcement and Governance (FLEG) and the European Union's Action Plan (2003) for Forest Law Enforcement, Governance and Trade (FLEGT).

The FLEG is the main international initiative to reduce illegal logging. Its ultimate aim is to “*create partnerships to initiate action with the intention of mainstreaming FLEG processes into country reforms and regional political organisations*”. FLEG processes are a variety of preventative and suppression measures. These include improving land tenure, reducing compliance costs for legal harvests, addressing processing capacity and supply imbalances, anti-laundering laws, and improving the profitability of legal forest management through markets for environmental services (Contreras-Hermosilla et al. 2007).

The FLEGT has created measures, separated from the FLEG, to control the international trade in illegal wood products. The FLEGT aims to identify and license legal products for import to the EU via voluntary bilateral agreements. Similar measures include government procurement policies, eco-labelling, and import bans. Central to these is the development of a chain-of-custody identifying wood products as coming from legal sources.

The types of policies under the FLEG and FLEGT aimed at reducing illegal logging must address three important issues (Seneca Creek 2004, Contreras-Hermosilla et al. 2007):

- i. The policies must be widely adopted, to ensure illegal supply is significantly reduced.
- ii. Property rights for legitimate producers must be improved to ensure they are able to capture the benefits of reduced illegal logging.
- iii. The cost for legitimate producers must not increase more than that for illegal log producers.

Results from this study suggest that achieving widespread adoption of certification, eco-labelling or the FLEGT may be difficult. While exporters of wood products from legally sourced material would increase revenue with the removal of illegal logging, manufacturing sectors in countries that utilise illegally sourced wood would experience a decline. The economic incentive for addressing illegal logging, therefore, does not lie with the manufacturing sectors (consumers) in countries where illegal logging occurs, but in countries without illegal logging. To address the consumption of illegal wood will require measures that cover the complete chain-of-custody for all wood products that may be produced from illegally sourced material. Currently, the FLEGT covers only industrial roundwood, sawnwood, plywood and veneer.

At the same time illegally sourced material is being utilised because it can be obtained at lower cost than legitimately produced wood material. To successfully address illegal logging, solutions must attempt to raise the cost for illegal producers without also raising the cost for legitimate producers, otherwise, the cost gap will continue to exist and could even widen, providing greater incentive to illegal operators (Contreras-Hermosilla et al. 2007). This is another potential limitation of the FLEGT, which may increase costs to legal producers and lead to unintended impacts (Seneca Creek 2004, Contreras-Hermosilla et al. 2007)

### **Future Work**

Contreras-Hermosilla et al. (2007) and Seneca Creek (2004) identify a variety of measures for addressing the illegal harvest and trade of wood products. The European Union has focused on the FLEGT as a means of combating illegal logging though critics suggest that its impact will be limited.

Economic models of the forest sector, such as the Global Forest Products Model and the Radiata Pine Market Model, can be used to assess the impact of the different policies to answer a variety of questions. Such questions include, would expanding the FLEGT country and product coverage be beneficial? How much would reducing the cost of compliance for legal harvests affect illegal harvests? Will compliance costs in natural forests increase relative to even aged plantations, accelerating the move to timber production from plantations? Would a market for carbon increase the profitability of legal forest management?

To represent these policies in the Global Forest Products Model and Radiata Pine Market Model, and assess their impact on illegal logging, would require recognition

in these models of industrial roundwood sourced from legal and illegal harvesting, and products manufactured from these different sources.

## References

- Contreras-Hermosilla, A., R. Doornbosch, and M. Lodge. 2007. *The Economics of Illegal Logging and Associated Trade*. Organisation for Economic Co-operation and Development, Paris.
- Li, R., J. Buongiorno, J.A. Turner, S. Zhu, and J.P. Prestemon. 2007. Long-term effects of eliminating illegal logging on the world forest industries. *Forest Policy and Economics* (submitted).
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