



ELLIOT

Modélisation économique du commerce international du bois entre la France et l'Asie pour l'évaluation multi-échelle de ses impacts économiques et environnementaux

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Summary

Context - The economic and environmental consequences of French wood exports to foreign countries are regularly questioned.

Objectives - The PhD project will question the sustainability of a globalized bio-economy for the timber sector. To this end, it aims to assess the economic and environmental impacts of the international timber trade through an evaluation of the volumes traded, price dynamics, the evolution of greenhouse gas emissions and imported deforestation caused by the international timber trade. The project aims to assess these indicators at different scales (global, macro-regional, national, regional) and will be applied to the case study of the Chinese Belt and Road Initiative (BRI) - or new Silk Road.

Approach - The PhD student will develop a model of the international timber trade, whose current centre of gravity is in Asia and more particularly in China. The model will combine work from traditional forest sector modeling, geographic economics, urban metabolism and Machine Learning to provide an accurate and innovative representation of wood trade flows and their dynamics at different scales. In addition, the research project will also couple the model with environmental impact assessment methods to calculate transport-related emissions and estimate the resulting deforestation caused by the international timber trade in order to evaluate an indicator called "imported deforestation".

Results and impacts - The resulting model will then be used to assess the impacts of different trade policies on the economics of the timber sector at different scales and their environmental consequences. The thesis will be geographically anchored in Asia through collaboration with Beijing Forestry University (BFU) and CIRAD. We consider these partnerships to be essential for the successful completion of the research project.