

# FORESTS AND CLIMATE CHANGE AT THE XIII WORLD FORESTRY CONGRESS



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# FORESTS AS FINANCIAL AND CARBON ASSETS- ESTIMATING THE VALUE OF THE PORTFOLIO EFFECT

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## ABSTRACT

While forest analytics traditionally focus on management units, in reality forestry holdings form a portfolio. This important portfolio effect of forests is not well understood. While risks primarily lie with the single sites, the value and carbon position is on the entire portfolio. Understanding portfolio effects is relevant as forests are a valuable (financial) asset and increasingly private capital is involved. Based on the GUMP risk model for forestry investments, portfolio effects of typical forest holdings are analyzed and first results presented. The analysis is made on a single forest level as well as on a portfolio basis. On both levels the impacts of risk events are shown and quantified. Risk categories include biotic and abiotic risks as well as price and market risks of timber and land along with inherent country specific risk factors like currency. Using stochastic analytics and Monte Carlo Simulation techniques the risk profile, financial viability and carbon profiles can be estimated. The GUMP risk model employs different biological growth effects and risks are modeled as constraints or delays to the point of partial or total losses, depending on their probability and time of occurrence.

Research shows forestry assets have significantly different risk and return profiles and need different management strategies to improve them. The contribution strategic portfolio effects have been qualified, as well as how risks can be mitigated. This "quantification" is relevant not only for forest transactions, management and investment decisions, but can become critical for carbon related discussions. The maximum loss scenarios for portfolios illustrate the "true" risks and can build a mission critical basis for risk transfer and insurance solutions.

Understanding portfolio measures, therefore, is not only relevant to the financial industry, but may become even more important for governments and policy makers for the strategies needed for Afforestation/Reforestation and REDD programs within the climate change context. Evaluating the true portfolio value can save significant budgets within support and development programs.

THURSDAY OCTOBER 22, 10:40 (GUATAMBU ROOM)

Abstract of:

Forestry for Climate Change Mitigation: Opportunities and challenges for an increase in acquiring capital - a contribution towards a framework for risk management and risk products, Discussion Paper, v. 1.5, Munich, May 2009, Authors: Röckemann, C., Tott, G.C., Wossidlo, K.

*For the full working paper accepted for the conference please reach out to us at [info@firstforest.com](mailto:info@firstforest.com)*