



## THE LONG - TERM SILVICULTURAL RESEARCH PROGRAM IN BOLIVIAN TROPICAL FORESTS

Marielos Peña - Claros<sup>1,2</sup>, Marisol Toledo<sup>2</sup>, Juan Carlos Licona<sup>2</sup>, Alfredo Alarcon<sup>2</sup>

<sup>1</sup>Forest Ecology and Forest Management Group, Wageningen University, P.O. Box 47, 6700 AA Wageningen, the Netherlands (marielos.penaclaros@wur.nl) <sup>2</sup>Instituto Boliviano de Investigacion Forestal, P.O. Box 6204, Santa Cruz, Bolivia (mtoledo@ibifbolivia.org, jlicona@ibifbolivia.org.bo, Alarcon@ibifbolivia.org.bo)

---

Studies have shown that current management practices are not sufficient to guarantee the long - term productivity of tropical forests. The Long - Term Silvicultural Research Program in Bolivia aims to evaluate the sustainability and cost - effectiveness of various silvicultural treatments, and to study their effect on stand dynamics, biodiversity and forest ecosystem function. Plots of 2030 - ha were established in different forest types, and received one of four treatments that range in logging intensity and application of silvicultural treatments. Silvicultural treatments applied included liberation of future crop trees (FCT) through liana cutting and girdling of overtopping trees, marking of FCT, timber stand improvement, and soil scarification. Here we present results on the effect of silvicultural treatments on growth rates. Liana cutting and girdling of overtopping trees resulted in higher diameter growth rates, being the effect of liana cutting stronger than the effect of liberation from overtopping trees. The effect of silvicultural treatments reduces through time suggesting that treatments need to be applied several times during the cutting cycle to assure that trees keep growing under optimal conditions. All the results so far indicate that silvicultural treatments are needed to guarantee the long - term productivity of Bolivian forests.