REDD+ projects in the Democratic Republic of Congo: Impacts on future emissions, income and biodiversity

Aline Mosnier, Géraldine Bocquého, Rebecca Mant, Michael Obersteiner, Petr Havlík, Valerie Kapos, Steffen Fritz, Leo Botrill

HAL Id: hal-02742615

https://hal.inrae.fr/hal-02742615v1

Submitted on 17 Oct 2023

REDD+ projects in the Democratic Republic of Congo: impacts on future emissions, income and biodiversity

Aline Mosnier (1), Geraldine Bocqueho (1), Rebecca Mant (2), Michael Obersteiner (1), Petr Havlik (1), Val Kapos (2), Steffen Fritz (1), and Leo Botrill (1)

(1) IIASA, Laxenburg, Austria , (2) UNEP-WCMC, Cambridge, UK

The Democratic Republic of Congo (DRC) encompasses a large rainforest area which has been rather preserved up to now. However, pressure on the forests is increasing with high population growth, transition toward political stability and the abundance of minerals in the country. REDD+ is a developing mechanism under the UNFCCC that aims to support developing countries that want to make efforts to reduce their emissions from deforestation and forest degradation. The REDD+ strategy in DRC combines an independent national fund and independent REDD+ projects at the local level that are at the initial stage of implementation. The objective of this paper is to assess i) emissions reduction due to the implementation of the REDD+ pilot projects taking into account potential leakage and ii) potential co-benefits of REDD+ pilot projects in terms of biodiversity and rural income by 2030. We use the land use economic model CongoBIOM adapted from GLOBIOM which represents land-based activities and land use changes at a 50x50km resolution level. It includes domestic and international demand for agricultural products, fuel wood and minerals which are the main deforestation drivers in the Congo Basin region. Finally, we run a sensitivity analysis on emissions from land use change according to three different above and below ground living biomass estimates: downscaled FAO, NASA and WHRC.