

RESILIENCE OF TROPICAL ECOSYSTEMS – FUTURE CHALLENGES AND OPPORTUNITIES

Annual Conference of the Society for Tropical Ecology
(Gesellschaft für Tropenökologie e.V. – gtö)

ETH Zürich, April 7-10, 2015



IMPRESSUM

Editors

Chris J Kettle and Ainhoa Magrach
Ecosystem Management
Department of Environmental
System Science
Universitaetstrasse 16, CHN G75.1
ETH Zurich
8092 Zurich Switzerland

Cover Design

Wendy Martin

Front cover photo

Hirzi Luqman

Back cover photo

Zurich Tourism and ETH Zurich

Concept & Layout

roman.tschirf@gmail.com

The respective authors are solely responsible for the contents of their contributions in this book.

This book is available at www.gtöe.de
Printed on 100% recycled paper.
ISBN 978-3-00-048918-1



STATE OF THE ART ON DRIVERS OF DEFORESTATION IN THE CONGO BASIN TROPICAL FOREST

Pauline Gillet¹, Cédric Vermeulen¹, Laurène Feintrenie², Hélène Dessard³, Claude Garcia⁴

¹ULg- GxABT, Gembloux, BE, pgillet@ulg.ac.be

²CIRAD- UR B&SEF, Yaoundé, CM

³CIRAD- UR B&SEF, Montpellier, FR

⁴ETH- FORDEV, Zurich, CH

In comparison to other rainforests around the world, the pressure on biodiversity is comparatively low in the Congo Basin. But land use intensification and climate change are poised to increase the rate of forest loss. The changes to the landscapes and the development pathways that the Congo basin will follow will result from the complex interplay of ecological, economic and social drivers. To account for this complexity and to represent it in models of land use and forest cover change, we analyzed the existing literature in search of the current direct and indirect drivers of deforestation in the Congo Basin forest and in Cameroon and Gabon specifically. We identified and documented the following direct drivers of deforestation: (i) the expansion of agriculture - either family farming or agribusiness; (ii) the extraction of timber for commercial timber (iii) the development of infrastructure leading to the opening up of forested land and populations, and (iv) the mining industries, a driver so important in the future of the forests of the Congo Basin that it warranted a category on its own. The underlying causes mentioned in the literature relate to (i) the economic factors such as the demand for environmental resources in local and global markets and the need for national income; (ii) the technological factors allowing more cost-efficient timber removal; (iii) cultural factors like the perception of the forest as a frontier for development and an important source of economic income for populations and decision makers alike ; (iv) institutional factors like the informal taxation system on logging for the domestic markets; and (v) the demographic drivers such as the increased local densities resulting from migration and the demographic transition. In doing so, we refine and expand the framework proposed by Geist & Lambin in 2002 and adapt it to the Central African context.