

Food production, agricultural expansion and deforestation in Mai-Ndombe, DRC

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Mariteuw Chimère Diaw and Phil Franks

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Summary

The Democratic Republic of Congo (DRC) contains the second largest tropical forest in the world, which is known for its exceptional mega-biodiversity and essential role in maintaining global climate cycles. This forest constitutes an invaluable economic and cultural asset for the country, but concern is growing over levels of deforestation caused by small-scale shifting cultivation, logging, cash crops, mineral extraction and charcoal production.

Context

With estimated reserves of minerals of over US\$24,000 billion and a central role in the strategic minerals market, DRC could be one of the richest countries on the planet. It is, on the contrary, one of the poorest. The period between 1950 and 2017 saw a sevenfold increase in its population, which endured a long civil war and ranked as the poorest in the world from 1960 to 2001, when the economy declined by 3% per annum. Mineral and oil prices have helped increase gross domestic product (GDP) from 2.2% to 9.5%, but overall development is still weak, and the economy remains fragile (AEO 2017).

DRC is also notable for the weakness of its agricultural sector and serious food and nutritional problems. Poor governance, which has put it among the seven worst performers on the Ibrahim Index of African Governance (IIAG), has negative impacts on agriculture, infrastructures, the environment and public participation. This combination of factors highlights the essential paradoxes of a country whose abundant raw materials seem to constitute a 'resource curse' that brings war and poverty rather than wealth, and where agriculture, despite being in decline, is seen as a threat to forests and the environment. The baseline study for this working paper looks at these issues in terms of the political economy¹ of relations between the domestic supply of food products and policies to combat deforestation and climate change.

Mai-Ndombe: a case study

The province of Mai-Ndombe covers nearly 5% of DRC, and is a perfect case for a study that seeks to understand the agricultural factors in deforestation and loss of forest biodiversity, and the challenges that need to be addressed to better manage the competition between food production and forest conservation. Almost 62% of the province is covered in forest; it also contains savannah, extremely rich biodiversity and provides a whole range of ecosystem services for local people (including food, drinking water and energy), while acting as a carbon sink and buffer zone against floods (Kantu 2009).

Mai-Ndombe provides a useful example in other ways. Only one other province supplies the nearby capital Kinshasa with more food and fuelwood, but poor transport infrastructures and police harassment on the roads severely restrict trade within and between provinces. On another level, population dynamics contribute to a whole range of problems linked with deforestation; as do the production and conservation schemes pursued by different groups of social actors.

The province supports large numbers of livestock, contains three protected areas, about 20 forestry concessions and a carbon trading concession. Most food is produced by smallholders who grow cassava and other roots and tubers, maize, rice or groundnut. Their other sources of income include charcoal, artisanal logging, non-timber forest products, fish products, and selling bushmeat and livestock.

¹ For the World Bank (2011, cited by Franks *et al.* 2016) "The political economy focuses on how power and resources are distributed and contested in different national and sectoral contexts, and the implications for development outcomes."

Finally, Mai-Ndombe is regarded as a deforestation hotspot and a major investment target for climate and environmental programmes, which have spent nearly US\$500 million on support to reduce emissions from deforestation and forest degradation (REDD+) in DRC since 2009. It was also selected for one of the first REDD+ jurisdictional programmes, funded by the World Bank Carbon Fund, the Forest Investment Programme (FIP) and the Central African Forest Initiative (CAFI).

Food production and deforestation

Deforestation rates in DRC are thought to be among the lowest in the world but are on the rise (Defourny and Kibamba Lubamba 2014). It is generally accepted that small-scale shifting cultivation is the main direct cause of deforestation in Mai-Ndombe, along with large-scale livestock rearing. An estimated herd of tens of thousands of animals occupy up to 60% of certain parts of the Plateau, and grants of grazing concessions have been linked with reports of land grabbing (Isco 2010) and shortage of cultivable land in part of the district.

According to United Nations figures, the population of DRC will more than double over the next few decades, rising to nearly 200 million by 2050. The International Model for Policy Analysis of Agricultural Commodities and Trade (IMPACT) anticipates that there will be an equally strong and sustained increase in domestic demand for food products.

It is therefore generally accepted that deforestation will increase, although opinions on the scale of this phenomenon differ according to the assumptions and scenarios envisaged. The policies to be implemented are subject to similar debate. All the baseline scenarios, which are predicated on the assumption that current trends will continue, point to a bleak future of rural poverty and insufficient agricultural output to meet national food requirements (Tollens 2010). In terms of the direct impact of deforestation, GLOBIOM predicts that Bandundu (the area now comprising Mai-Ndombe and the two other provinces of Kwango and Kwilu) will be the second worst affected area in DRC by 2030, with 75% of deforestation caused by cassava. It also predicts that DRC's agricultural trade deficit will multiply by a factor of 3.7 (Mosnier *et al.* 2016).

The alternative scenarios offer a mixed picture of the future. Only one of GLOBIOM's scenarios, RDMT+, shows positive results for all agricultural and environmental indicators, by anticipating agricultural development through increased yields. It is the only scenario that reconciles social and environmental objectives and indicators for agricultural development, climate change mitigation and biodiversity conservation (Mosnier *et al.* 2016, p. 87-88).

Sectoral policies and REDD+

Forestry policy and programmes in Mai-Ndombe are dominated by investments devoted to REDD+ and setting up a jurisdictional programme across the province. Our analysis of policies to transform the relationship between forests and agriculture therefore mainly focus on REDD+ policies and interventions, as conceived for eight priority provinces that include Mai-Ndombe. This is part of DRC's Intended Nationally Determined Contribution (INDC) that commits to a 17% reduction in emissions by 2030 (DRC/CDPN 2015). The INDC plans to use agriculture, forestry and energy as the main sectoral levers for intervention, with territorial development, tenure security, demography and governance as enabling pillars. This is within the broader framework of the "Revolution of Modernity", a vision emphasising technology and industrialization for DRC's "development for emergence by 2060" (DRC 2015b).

Discussion: the political economy of food production and deforestation

As with similar studies conducted in Ethiopia, Ghana and Tanzania (Franks and Hou Jones 2016) it is clear that the main direct cause of deforestation in Mai-Ndombe province is the expansion of food crops. Certain scenarios based on current trends continuing from 2010 to 2030 anticipate that up to 75% of deforestation will be solely due to the expansion of cassava. Setting aside stylistic differences and the distinction between direct and indirect causes, the dominant discourse in DRC lays most of the blame for deforestation on ‘slash-and-burn shifting cultivation’, and advocates replacing it with new agricultural models based on perennial crops in order to eliminate deforestation. This is not a view shared by the authors of this study.

Given its political weight and the level of resources deployed by the REDD+ programme in Mai-Ndombe, the objective of Zero Deforestation (ZD) has, indeed, the potential to contribute to the agricultural intensification that some of the models recommend as a win-win solution. It remains to be seen whether this hope can survive the numerous potential pitfalls in the analyses.

In fact, the convergent analyses, models and opinions encountered during this study suggest that deforestation in DRC will very probably increase in coming decades. The most likely choice will probably be between the status quo of uncontrolled deforestation and a strategy of ‘mitigated’ deforestation accepting the idea that the investment needed to rehabilitate infrastructures and improve living standards will necessarily entail some deforestation. This could open the way for better management of cumulative deforestation within a 2030-2050 development trajectory, while focusing on “winning more and losing less” in the short term by better managing the trade-offs between development and conservation. The challenges in achieving this objective lie as much in governance and the political economy as in finding appropriate technologies. In terms of sustainable development goals (SDGs), it will require sharper focus on the conditions for industrialisation and ecological and social innovation provided for by SDGs 8 and 9 in order to reduce the innate tension between SDG 2 and SDG 15 (food and forests). As a ‘latecomer’ to industrialisation, DRC could benefit from its enormous resources and leapfrog to more socially equitable and ecologically sustainable forms of industrialisation and development.

Ultimately, much will depend on the flexibility of decision makers and on building the nation’s strategic and adaptive capacity as well as its governance and institutions.

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