The Congo Basin study 2009-2010

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Ecosystems Services and Management Program
1. Introduction
Introduction

- World Bank study: “Deforestation trends in the Congo Basin - Reconciling economic growth and forest protection”

- What could be the main future drivers of deforestation in the Congo Basin and how large could be their impact on forest cover and GHG emissions?
  - International drivers
  - Internal drivers

- What could be the impact of a cap and trade system on global GHG emissions from deforestation in the Congo Basin?
Introduction

Low historical level of deforestation in the Congo Basin compared to the other tropical regions

- 0.17% per year over 1990-2000 compared to 0.5% in Brazil
- Africa accounted for less than 6% of the total loss of humid forest cover

Changing context?

<table>
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<tbody>
<tr>
<td>Conflicts</td>
<td>Peace and political stability</td>
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<td>Economic recession</td>
<td>HIPC Initiative</td>
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<tr>
<td>Lack of infrastructures and degradation of</td>
<td>Investments in infrastructures for natural</td>
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<td>existing ones</td>
<td>resources exploitation</td>
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<td>Disinvestment in agriculture</td>
<td>Scarcity of land globally, biofuel demand,</td>
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<td>population growth in the Congo Basin</td>
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2. GLOBIOM-Congo Basin
A detailed regional model in the global context

Congo basin is linked to the other regions through international trade

28 regions

Congo Basin: >5000 spatial units between 10x10 and 50x50 km
Data collection

+ National Statistics:
  - Fuel wood
  - Population
  - Timber harvests per concession
  - Timber processing
  - Agriculture

Legend
- Protected Area
- Forest Concession

planned transportation infrastructures
## Scenarios

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
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<tr>
<td><strong>Internationa</strong>l drivers</td>
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<tr>
<td>Meat</td>
<td>↑15% global demand</td>
</tr>
<tr>
<td>Biofuel</td>
<td>↑100% demand for 1st generation biofuels</td>
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<tr>
<td><strong>Internal drivers</strong></td>
<td></td>
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<tr>
<td>Infrastructure</td>
<td>Planned infrastructures realized</td>
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<tr>
<td>Productivity</td>
<td>↑30% yields for cash crops, 100% for other crops</td>
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<tr>
<td><strong>REDD</strong></td>
<td></td>
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<tr>
<td>REDD-L</td>
<td>No participation of Congo Basin in REDD</td>
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3. Results
Scenarios 1 and 2: external shocks

Higher world consumption of meat or higher demand for biofuels increase indirectly deforestation in the Congo Basin.
Higher global demand increases commodity prices

- Exports decrease in the other regions
  - For biofuels
  - For meat
  - For animal feeding

- World prices increase

- Congo Basin decreases its agricultural imports which have become more expensive and increase local production

=> Deforestation slightly increases in the Congo Basin
Scenario 3: Internal driver agriculture

Higher crop yields increase deforestation by 50% in 2030
Better agricultural productivity: higher demand

- Reduction of production cost by unit
- Reduction of local prices
- Demand increases
- Reduction of imports and consumption increase of local products
- Total demand increases more that production increase through productivity gains
- Agricultural land increases

=> Deforestation increases in the Congo Basin
Scenario 4: internal driver infrastructures

Planned transportation infrastructures development triples deforestation in 2030
Better infrastructures: higher demand

➢ Same mechanism as for agricultural productivity

➢ But different impacts in terms of localization of the agricultural expansion/deforestation

=> More deforestation in remote carbon dense forested area = more CO2 emissions
Scenario RED: reduction of deforestation

Deforestation could be significantly reduced already at low carbon price levels but it could hinder economic growth.
RED increases production costs

- Forest conversion to agriculture becomes more expensive
- Production costs to achieve higher agricultural production level increase
- Local prices increase
- Local consumption is reduced
- Food imports increase
4. Conclusion
Lessons learnt

- Experts and stakeholders workshops early in the project are very valuable
- Data collection difficult => people sell the data and most of data are estimates
- Modeling exercise show to the stakeholders the value of information/statistics
Follow-up project: REDD-PAC

www.redd-pac.org

- The REDD-PAC project will develop novel models, data and analysis that can show the multiple effects of land use policies.

- These models and tools will help to identify ways of achieving a balance between the multiple goals of REDD+ for each specific regional case.
Merci!

Pour plus d’informations :
www.globiom.org

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