

# Industrial drivers of deforestation in non-forest sectors in Central Africa

Les projets agro-industriels et miniers dans les forêts d'Afrique Centrale.

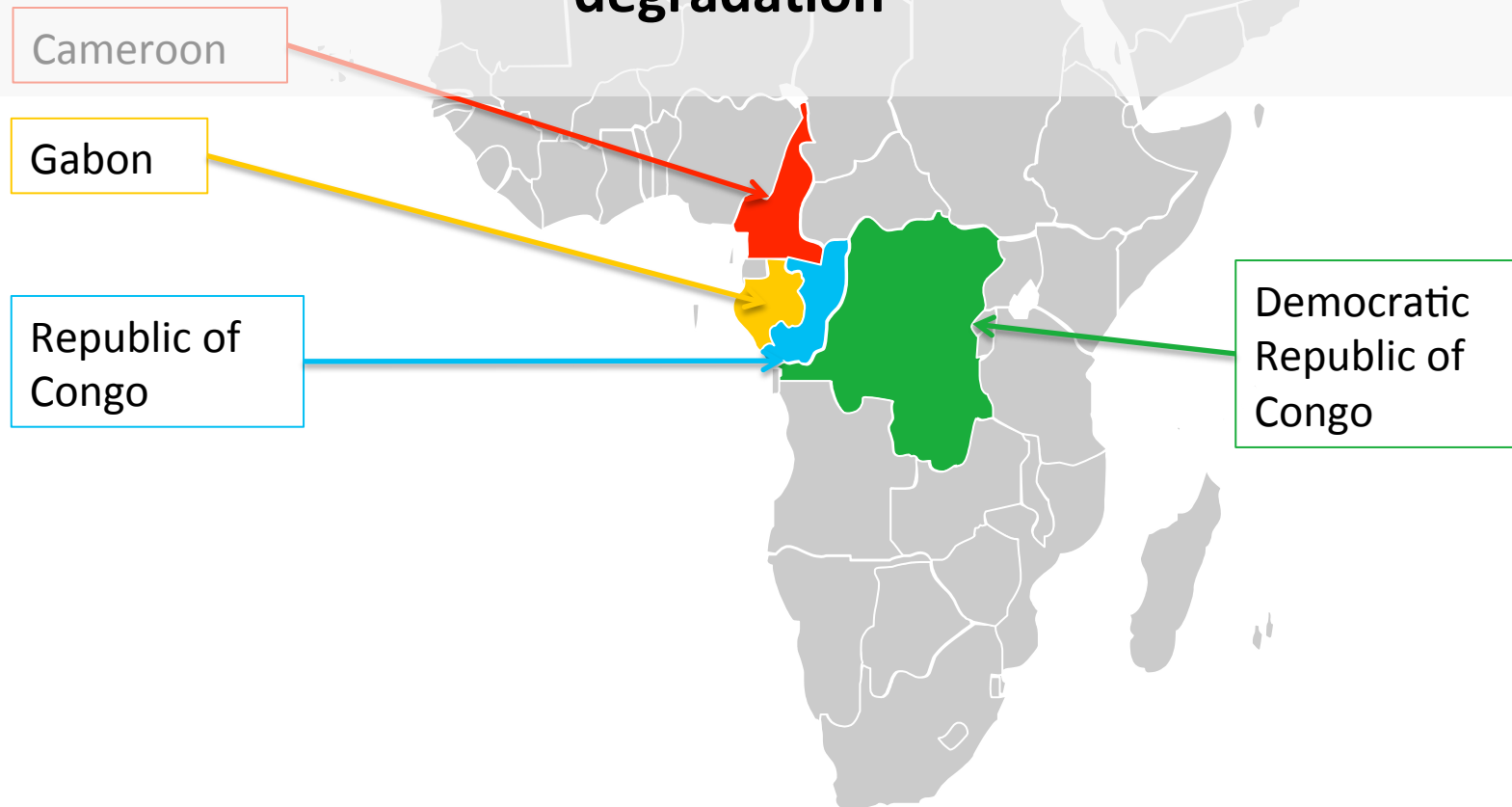


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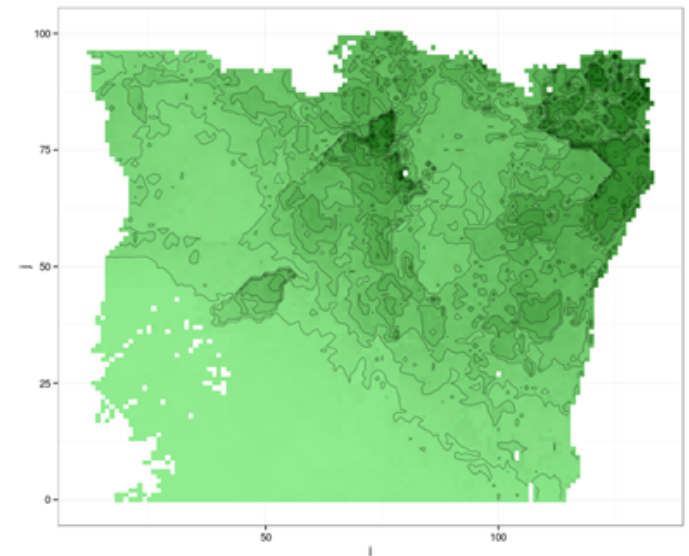
## Congo bassin forests almost intact but under pressure

**Trade-off between forest ecosystem services conservation and economic growth**

**=>Dynamics of major industrial drivers of the forest degradation**



Results	Forest type*	Celtis forests					Manilkara forests		Gilbertiodendron forests
		Old growth	Old-growth with regeneration deficit	Young	Degraded with <i>Musanga</i>	Understorey with Marantaceae and/or Zingiberaceae	Old-growth	Young	
	Soil type	Relatively rich soils: clay soils on metamorphic substrates, sandy-clay soils on granitic substrates				Poor sandy soils on sandstone, medium rich sandy-clay soils on alluvium	Poor sandy soils on sandstone		Medium rich sandy-clay soils on alluvium
Diagnostic	Resilience								
	Anthropogenic disturbance	++	+	++	+/-	-	+ (?)	+ (?)	+ (?)
	Drought	+	+	+	-	?	++	-	++
Recommendations	At the regional level								
	Main vocation	Intensive production				Extensive production / Protection			
	At the concession level								
	Timber logging	Up to 4 trees/ha***			Limited***	Limited***	Limited***, extension of protection areas	To be avoided	Limited***, extension of protection areas
	Post-logging silviculture	Thinning	Climber cutting, liberation, enrichment	Thinning	Thinning	Clearing of giant herbaceae and enrichment	To be avoided		A priori not useful



**Assessment of the resilience  
of Congo bassin forests**



**Prédiction of forest types**

⇒ **Impacts of mining and agribusiness will differ depending on :  
the type of forest where they will be located**

**+**

**Infrastructures to be constructed**

**Amplified by climate changes**

# What are the dynamics of the two sectors ?

- **Agribusiness companies with land lease or land ownership above 1000 ha.**
- **Industrial mining companies : large investments, industrial process, staff.**

## Method

- draws on scientific literature and media reports review
- field surveys conducted in 2012-2014
- 3 categories of key stakeholders have been interviewed:
  - Government institutions
  - Private sector
  - Civil society



# Results Agri-business

- 1 290 506 ha of agro-industrial concessions acquired or under negotiation in the 4 countries since 2000
- On declassified or degraded forests / savana / outside forests  
(except Atama in Congo...)
- Agribusiness companies need the support of governments for the establishment of an estate, not only at national level, but also locally
- Lack of formal procedures and issue of transparency

## Results : mining sector

- Wave of exploration mining permits attribution since 2009
- Except in RDC, sector still underdeveloped
- Priority of mining rights over all other in the field  
(lack of inter-sectoral rights, packages-deal, expected returns higher than other industrial activities)

=> Land conflicts vs local employment ?

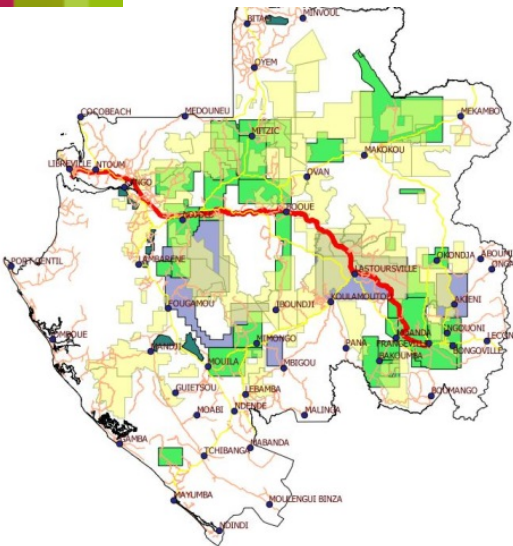
- Most of listed companies play transparency and respect the mining code...at least partly...

=> Reduced direct impacts on the forest for now....

# Focus on mining in forests

Indirect impacts of mining matter :

- fragmentation by infrastructures
- pressures on wildlife and wood-energy by life camps
- pollution on rivers



Mutual agreements between mining and forest operators :

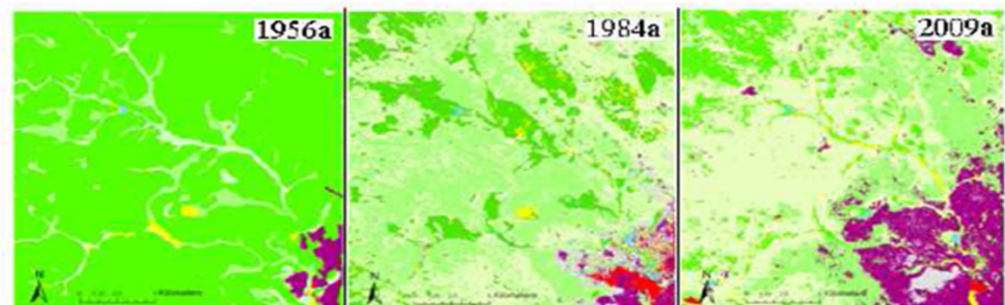
~ « Payments for environmental services »

=> Regulating ecosystem services not taken in account in the transaction

=> Regulatory role of the hosting states ??

# Take home message

- Land-use planning at national level needed !
- Legal requirements do not secure local people's rights on land and resources
- Concertation platforms (IDAK..) useful
- Agri-business companies have not been involved much in land grabbing in Central Africa since 2000 and global positive impact for now
- Mining firms : positive impact on economic growth with an ecological cost to evaluate and offset.

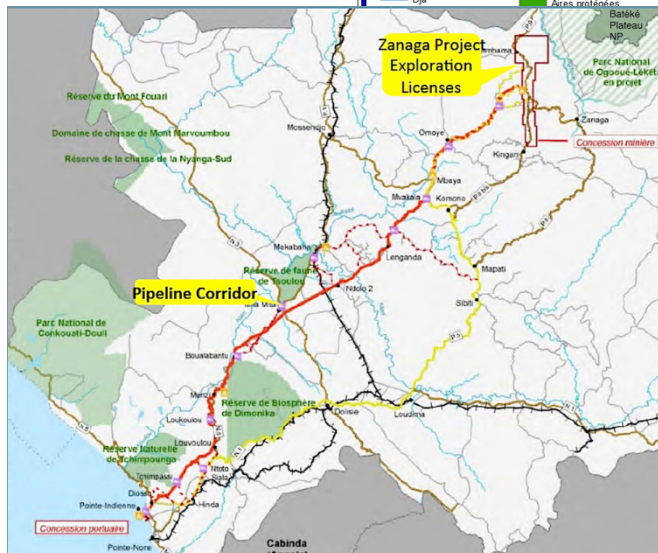
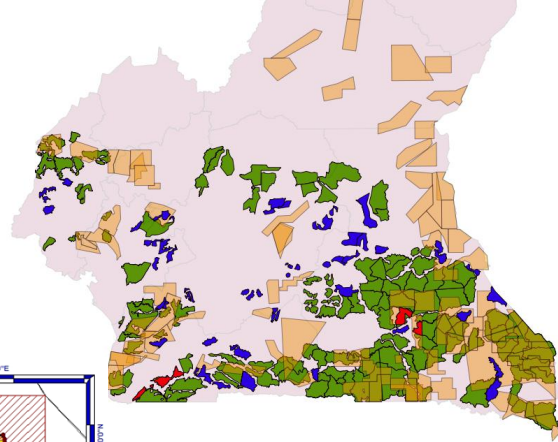
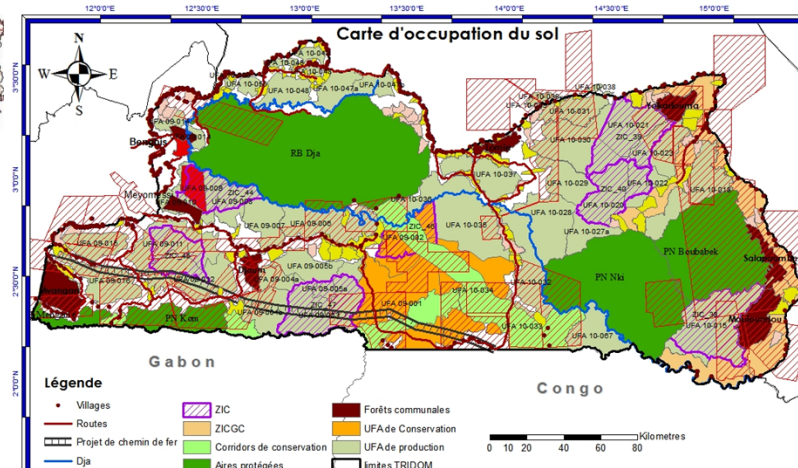
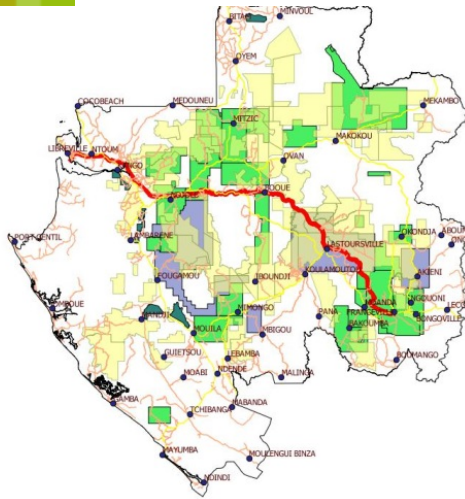


# Remerciements

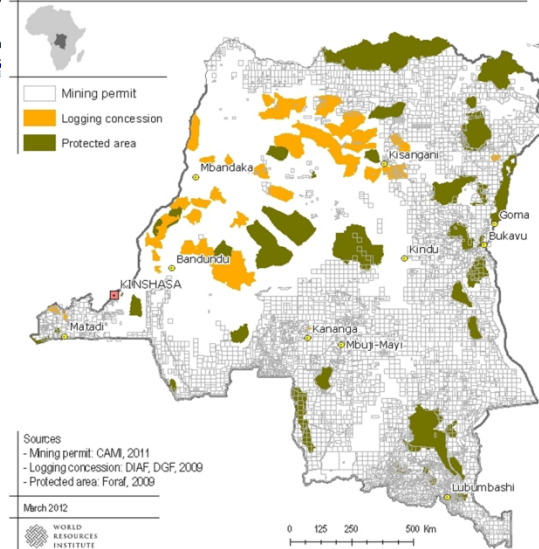
*L'appui du Service de Coopération et d'Action Culturelle (SCAC) Libreville en 2013 a permis de financer cette étude préliminaire, à travers des missions et des travaux menés par des étudiants au Cameroun, au Gabon, et en République Démocratique du Congo.*



# Territorial issues

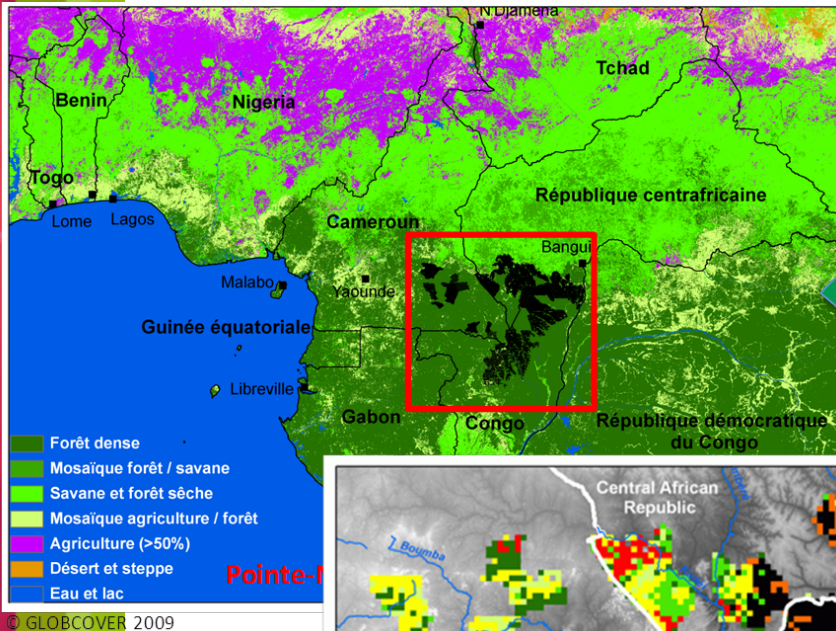


Democratic Republic of Congo: Forestry, Mining and Conservation

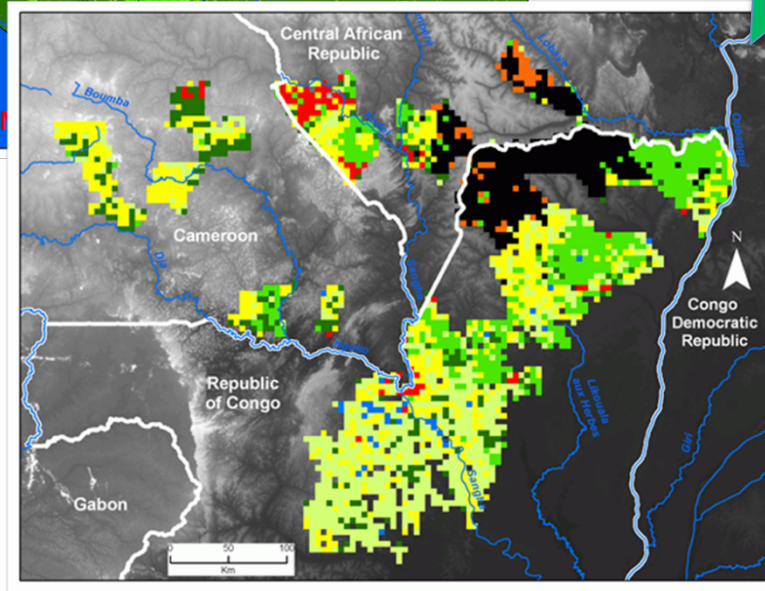


# CoForChange project :

The variability of forest characteristics and their different responses to disturbance should be considered in management decisions et territorial planning



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## Legend

### Celtis forests

- Young
- Old-growth
- With regeneration deficit
- Degraded, dominated by *Musanga cecropioides*
- Degraded, understorey dominated by Marantaceae / Zingiberaceae

### Manilkara forests

- Young (when close to the black area)
- Old-growth

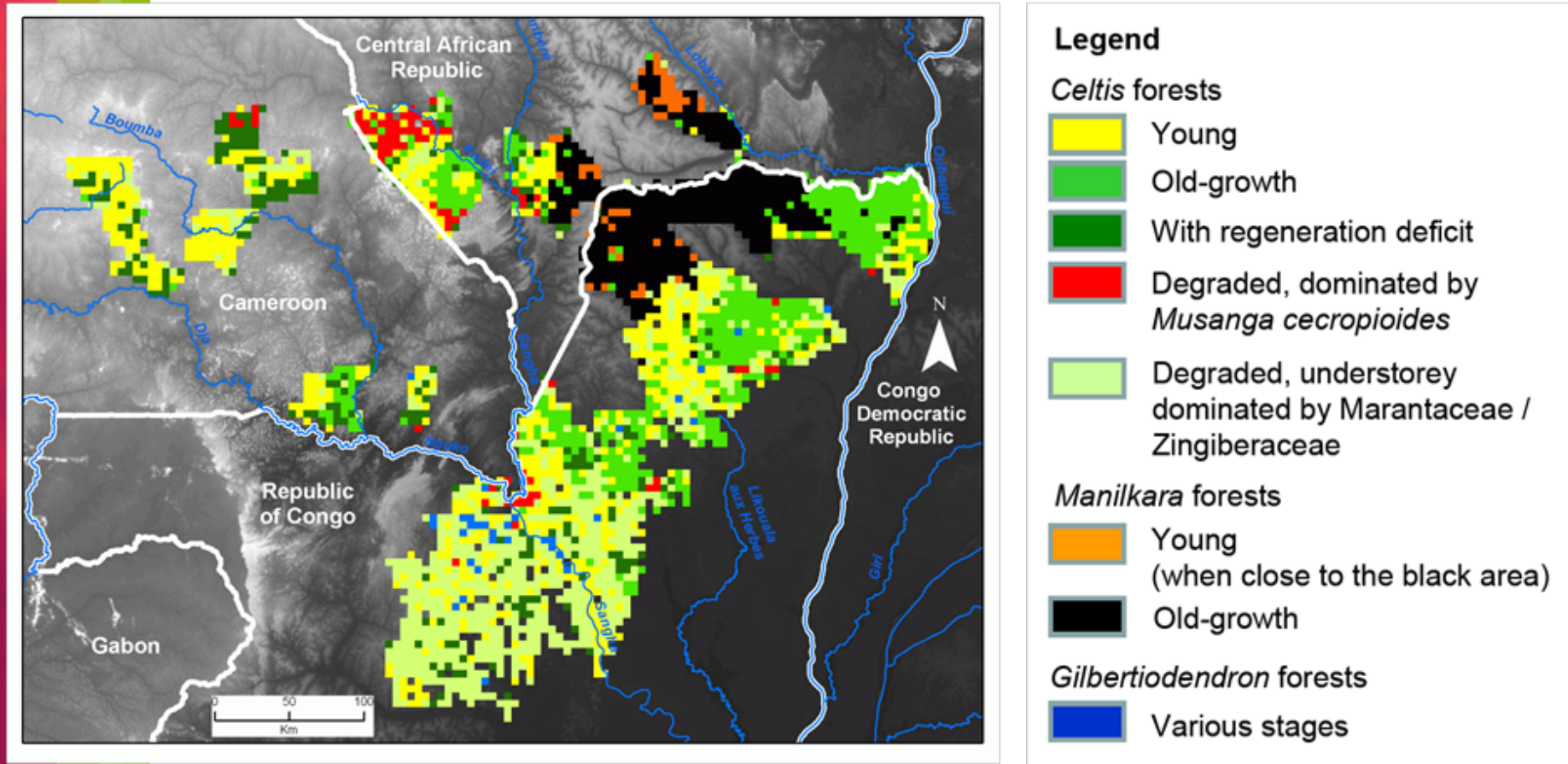
### Gilbertiodendron forests

- Various stages

**Antropogenic disturbance :**  
Forest harvesting, agriculture, mining, agri-business, infrastructures  
+ climate change



# Three main forest types in the CoForChange project area



As result of **soils & intensity of disturbance**  
Ancient climatic and anthropogenic disturbance (2500 to 2000 years ago)