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In the Congo Basin forests, many are still living from hunting, fishing and gathering, and slash and burn agriculture. But the development of roads, towns and markets opens new opportunities that local communities are quick to grasp. The landscape transformation and the loss of forest are also accompanied by changes in households and family farms. The CoForTips team examined the technical and economic performances of family farming and extractive activities in the forest. We explored the household strategies, but also the nature of the standards and tenure types of different natural resources. In the end, it gives a coherent vision of how societies living in forests adapt to change and change back their landscape. Far from being passive subjects, local communities are themselves actors and drivers of change.



Barthélemy Tchiengue

After studying botany and ecology in Cameroon, Barthélemy received his doctorate at the University of Frankfurt in 2012. As an expert in taxonomy and plant ecology, he participated in several botanical expeditions and environmental impact studies in Cameroon and Africa, together with the team of the Royal Botanic Gardens in Kew (UK). Since 2002 he is a botanist at the National Herbarium of Cameroon. He works for the WP1 in CoForTips since 2013.



THE WORLD BANK

The annual conference on land and poverty organized by the World Bank

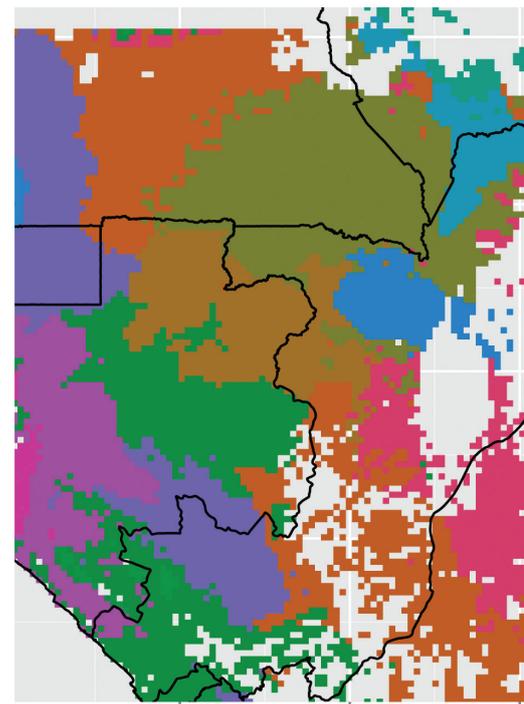
took place from March 23rd to 27th in Washington DC (USA). The theme this year is "Linking land tenure and land use for shared prosperity." Pauline Gillet, Laurène Feintrenie and Valéry Gond were the ambassadors of CoForTips and CoForSet at this event. Pauline presented the effects of deforestation on land tenure [1], Laurène addressed family farming [2], responsible agribusiness practices, and biodiversity offset mechanisms, featuring the work of Fabien Quétier and the CoForSet team. Valéry presented his maps of the forests of the Congo Basin. For more information, visit the website:

<http://goo.gl/c8KTAS>

Resilience Landscapes

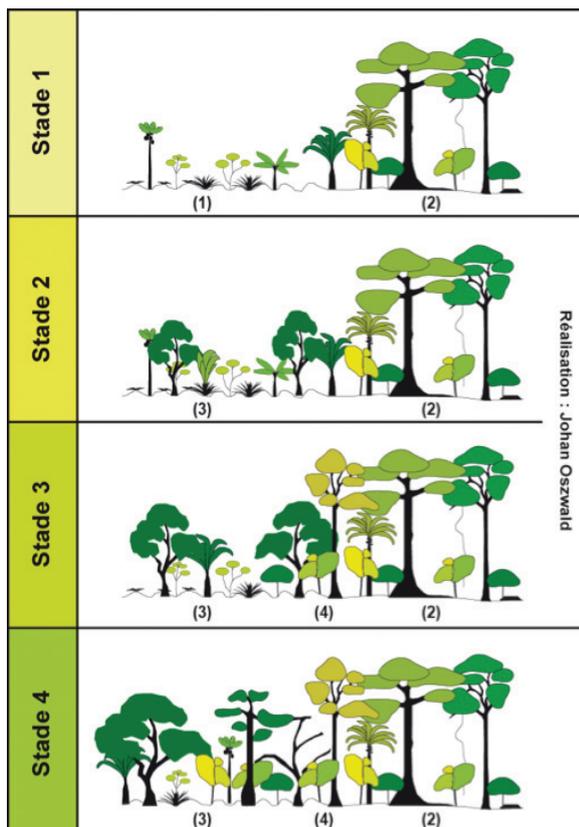
The working group - Resilience Landscapes - brings together ecologists, remote sensors and statisticians. By combining large-scale forest inventories with satellite and bioclimatic data, the team set of models to predict the current species composition over a large part of Central Africa (see map above). We use climatic and anthropogenic scenarios to predict which regions and types of vegetation will be most affected by global change. We also aim to identify potential critical transitions between major forest types. All of this work to better understand how the forests of central Africa respond to global change, and imagine the landscape of tomorrow.

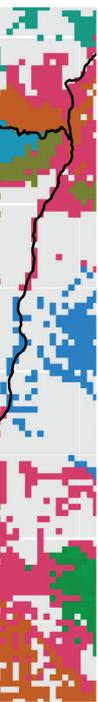
A second aspect of this work is to model vegetation dynamics in the three study sites selected by the project. The site in Makokou knows rotations in cropping activities cir-



cumscribed around the villages. On the site of Mindourou, actors develop more intensive agricultural activities, with the rise of commercial agriculture in areas further away from villages. Finally, the site of Guéfigué is characterized by a recent increase in wooded areas for

the development of the cocoa agroforestry. Over the entire study area, we used satellite images (Landsat and SPOT) to account for the dynamics of land use. On a smaller scale, we mapped the agricultural parcel from object-oriented methods. The left image shows the transition model savanna-forest for Guéfigué.





Forest Types

- Aucoumea/Scyphocephalum
- Calpocalyx/Coula
- Celtis/Guibourtia
- Celtis/Petersianthus
- Celtis/Strombosia
- Celtis/Terminalia
- Dialium/Pentaclethra
- Eurypetalum/Julbernardia
- Manilkara/Aubrevillea
- Manilkara/Celtis
- Millettia/Gilbertiodendron
- Uapaca/Coelocaryon

Biodiversity Scenarios

We initiated Companion Modeling (ComMod) processes on each of the 3 study sites between April and August 2014. By identifying with the local communities the problems, actors, resources, dynamics and describing the interactions between these elements, we aim to build a common vision of landscape drivers of change.

At Guéfigué, the process led by Giles Somgweg brought together stakeholders from food and cocoa sectors to initiate a dialogue on lo-

cal development issues of agricultural activity [3].

At Mindourou, Eglantine Fauvelle participated in the development of two different models: one on the retreat of the community forest from Mindourou urban center as a result of the expansion of cultivated areas by migrants attracted by the logging site; the other model on the organization of agriculture, hunting and gathering on the village territory of Ampel, neighboring Mindourou. This second model was translated into a role-playing game (AgriForest, Agriculture and Forest to the east Cameroon), co-constructed and tested with the villagers. [4]

In Makokou, Christophe Rouxel worked on the interactions between village agriculture and the presence of elephants. The work was conducted in two villages (i) Ebyeng in the immediate vicinity of a protected area and (ii) Massaha, further away, leading to the design of a single conceptual model which was then discussed in Makokou [5]. These three processes will be taken further in 2015, supported by national partners who were trained to the ComMod approach.

Louis Bernard Chetou

Louis Bernard is an Engineer of Water, Forests and Hunting and holds a Diploma of Advanced Studies (DEA) in Geography, Environment and Spatial Planning. He specialized in sustainable management of tropical forests with over 15 years of experience in the implementation of projects in the forest / environment sector in Central and West Africa. He is a researcher at IRAD Cameroon, an international consultant, and part of the ACP FORENET research network, on which are based CoForTips and CoForSet..



The Society for Tropical Ecology

will hold its annual conference on April 7th to 10th in Zürich (Switzerland).

The theme this year is the resilience of tropical ecosystems and the challenges and opportunities it creates. CoForTips and CoForSet organize a special session dedicated to the coupling of social and ecological drivers in models exploring the evolution of the Congo Basin. Maxime Réjou-Méchain (WP 1) will present his model of forest composition, Pauline Gillet (WP 2) will summarize the drivers of change, Stephan Pietsch (WP 3) will talk about resilience landscapes, and Eglantine Fauvelle (WP 4) will present her results for participatory modeling.

More information:

<http://www.gtoe-conference.de>



The Definitions Corner

Family farming

Family farming is characterized by close ties between the family and the agricultural production unit, and by a labor force constituted exclusively of family labor (without employing permanent wage labor).

These links materialize among other things by the inclusion of productive capital in the family patrimony and by the combination of domestic and exploitation strategies, market and non-market oriented, in the allocation of family labor and its remuneration. [6].

[1] Gillet P, Feintrenie L, Codina Llavina E, Lehnebach C, Vermeulen C. 2015. The effect of deforestation rate on land tenure in Central Africa. Annual World Bank conference on land and poverty, Washington DC: March 23-26.

[2] Feintrenie L, Gillet P, Garcia C, Boulaud AL, Ferlay A, Codina Llavina E, Lehnebach C, Vermeulen C. 2015. Family farming in a changing landscape: How activities change when forest disappears. Annual World Bank conference on land and poverty, Washington DC: March 23-26.

[3] Somgwag Kamsu G. C. 2014. Modélisation participative de la paysannerie agricole sur le territoire de Guéfigué et Guéboba, Mémoire de Master, Université de Toulouse III, Toulouse, France, 50 p.

[4] Fauvelle E. 2014. Analyse comparée des moteurs de changement et des enjeux d'adaptation d'un socio-écosystème de forêt tropicale. Mémoire de Master, Institut des Régions Chaudes – SupAgro, Montpellier, France, 177 p.

[5] Rouxel C. 2014. Territoires villageois de projets, interface agriculture-forêts et problème épineux des éléphants dans la localité de Makokou (Gabon). Mémoire de Master, Université de Rennes 1, Rennes, France, 160 p.

[6] Bélières J.-F., Bonnal P., Bosc P.-M., Losch B., Marzin J., Sourisseau J.-M., 2013. Les agricultures familiales du monde. Définitions, contributions et politiques publiques, Montpellier, Paris, Cirad, AFD, MAAF, MAE, 306 p.

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Partenaires des Projets



Partenaires associés



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