



Develop operational partnerships between research and ministries of the region

CoForChange viewed by the Ministry of Cameroon in charge of forests

In Cameroon, the sustainable management of the production forests of the Permanent Forest Estate (PFE) has been entrusted for the last fifteen years to the economic operators of the timber sector in a contractual framework of forest management/logging, and to communes for the communal forests. The Ministry remains responsible for monitoring and controlling the development and implementation of management plans, i.e. the regulating management tool.

Even without a reference to global change, the logging impact ought to be measured: technical measures have been prescribed along management norms for the establishment of "permanent plots to monitor the dynamics of forest stands" under the heading "research activities". But we must recognize

that the Ministry has little invested itself yet in monitoring and assessing this work in support of management implementation.

However, the issue has not been forgotten, and a necessary assessment of the results of forest management practices remains a concern. Thus, missions to monitor forest management implementation on the basis of criteria such as respect of felling areas, minimum diameters and other logging norms, and boundary setting are periodically conducted in forest management units (FMUs), and a mission was conducted in four communal forests under logging. A major recommendation arose from these missions on the need to revise the assessment grid on the implementation of management plans in PFE forests. In addition, when many management plans exceeded the five-year deadline making their revision possible, necessary changes in norms and procedures inspired the design of a project to support the Forest and Environment Sector Program (FESP), whose funding convention based on Debt-Reducing and Development Contracts (C2D) was signed last June. The first part will focus on sustainable management of DFP forests and the second on monitoring the forest cover.

In this context, CoForChange's workshop on findings, recommendations and discussions, held in Brazzaville, was an opportunity for us to discover in draft form the results of the project – thematic maps of major forest types, their characteristics and those of species, change scenarios and possibilities for decision support –, and to appreciate the prospects opened up by these advances and the tools developed.

It seems essential for the Ministry to undertake better monitoring and assessment of research activities conducted in production forests by the partners involved in sustainable management.

It also appears that the Forest Department of the Ministry of Forests and Wildlife (MIN-FOF) must keep better informed on current or future scientific works in the Congo Basin. Particularly in Cameroon, an operational partnership will have to be developed or set up from the start between researchers, who promote research and development projects, managers of logging companies operating in FMUs, and the Ministry.

Particular attention will be paid to the subregional project Structure and Dynamics of Central Africa Forests (DynAfFor), funded by the French Fund for World Environment (FFEM), which starts in CoForChange's wake and can contribute much to the C2D-FESP project in Cameroon.

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The Nyong in the Mbalmayo forest reserve (Cameroon).

CoForChange at ATBC* 2012 in Brazil

CoForChange researchers coorganized two symposia – "Past, present and future of tropical forest ecosystems" and "Measuring and predicting the impacts of drought across tropical forests in Africa and South America" – at ATBC annual meeting held this year in Bonito (Mato Grosso do Sul, Brazil) from 18 to 22 June. A presentation of the main results of the project was also conducted in a third symposium "Maximizing the conservation value of tropical forest through sustainable forest management practices". More than 1200 researchers attended the meeting, which was an opportunity to compare our results with those obtained by teams working on similar issues in Central America and South America. Several avenues for further research have been opened, including the model of soil water reserve, quantification of water stress in plants or quantification of resilience.

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Focus on Coordination



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Coordinate, communicate, and disseminate

Findings and recommendations/discussion workshop in Brazzaville: a milestone

When the CoForChange project started on January 1st, 2009, we committed ourselves to organising a workshop in Central Africa during the last year of the project. This workshop was actually held from 21 to 23 May 2012 in Brazzaville and brought together 105 participants from the region (Cameroon, Gabon, Central African Republic, Republic of the Congo, Democratic Republic of the Congo), but also from France and Belgium. The workshop had several objectives: 1) Disseminate the knowledge acquired or in the process of being so within the CoForChange project; 2) Identify the expectations/opinions of the main stakeholders in forest management on priorities for research and knowledge transfer with regard to forest ecosystems in the region; 3) Discuss CoForChange team's key recommendations for forest ecosystem management; 4) List the decision support tools that will be the most useful to the various stakeholders at the end of the project. The workshop was opened by HE Henri Djombo, Minister of Sustainable Development, Forest Economy and Environment.

The presentations made by the researchers of the project, as well as by representatives of the various categories of actors in the region (government, loggers, researchers and teachers, civil society, local communities), raised many questions, which were debated further within working groups. The main topics focused on the prospects of anthropogenic pressure in the study area (population increase and movements, mining, agribusiness, infrastructure) and the likely evolution of the forest management model, the difficulties raised by the concepts of high conservation value forests (HCVF) and intact forest landscapes (IFL), as well as assessing the CoForChange project (strengths and gaps). A first draft on management recommendations based on the results obtained as a whole by the project led to lively discussions and controversy: Are the results sufficient to suggest that some forest areas would accommodate to some intensification of timber production, whereas others should be further protected? This is the researchers' standpoint, and they will have to develop their arguments further and share it as widely as possible with all stakeholders.

Several decision support tools had been identified at the onset of the project, including a trait database, a series of thematic maps, and scenarios of vegetation change. It now seems possible to advance further so as to provide a "diagnosis toolbox": a methodology to analyse differently forest inventories, coupled with a key to interpreting possible results, used to diagnose the state of evolution, potentiality and potential resilience of forests to be managed. The provision of such a tool is one of the eight recommendations made by the workshop participants to the project researchers.

A summary report of the workshop, a summary slide presentation and the slide presentations of the participants from the region can be downloaded from: http://www.coforchange.eu/scientific_animation/regional_workshop

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Brazzaville Workshop, 21-23 May 2012

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Focus on
Water availability



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for development (IRD). He coordinates the Congo site of the Environmental Research Observatory, Hybam. In CoForChange, he coordinates workpackage 3. He couples satellite data with field data harvested from transects representative of the main forest biotopes that are present in the Congo Basin.

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Mapping soil water availability

Rainfall changes in the Congo Basin analysed through the evolution of the main rivers

The study of past hydroclimatic variations is an important part of the CoForChange project because these changes may have had an impact on the structure and composition of forest stands. However, the Congo Basin, second in the world in area and discharge, clearly lacks hydrometeorological observation data. To overcome the lack of national, regularly monitored and controlled meteorological networks that provide continuous, reliable and consistent data, we studied discharge records of the Congo River and its tributaries, which reflect climate changes.

by 10% in relation to the average of a century's recordings. Since 1995, discharges of the Congo have been returning to normal, whereas those of the Ubangui and Sangha, despite some recovery, remain-ed drastically below normal levels (Fig. 2).

In 2010 and 2011, the lowest levels in 65 years were observed in Brazzaville (Photo), and the Ubangui reached its lowest level in one hundred years in 2012. Within the Congo Basin, these changes seem to highlight climatic disturbances that affect more specifically northern regions (Ubangui and Sangha basins), already marked by climatic deterioration since 1970, but we do not have recent data on the discharges of the left-bank tributaries of the Congo.

These major fluctuations in rainfall and discharge regimes may also have a significant impact on vegetation, but this point remains to be ascertained. In the flood basin of the Congo, four types of forest formations can be characterized (riparian, temporarily-flooded, periodically-flooded, and rarely-flooded forests) (J. Betheder, 2010, Master 2). We can imagine the consequences of changes in flood levels on the most affected ecosystems.

In addition, some piezometers have been set up in different forest concessions to monitor medium-term fluctuations of water tables and to understand better how they relate to hydroclimatic changes. A more precise quantification of these variations would however require rehabilitating hydroclimatic networks, whose interest far exceeds that of the project.

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June 2011: The river port of Brazzaville is dry!

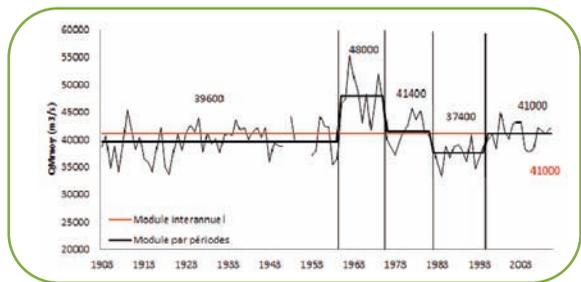


Fig. 1: Sequencing of annual discharges of the Congo in Brazzaville from 1903 to 2011. Discharges are in $m^3 s^{-1}$ by periods of homogeneous hydraulicity.

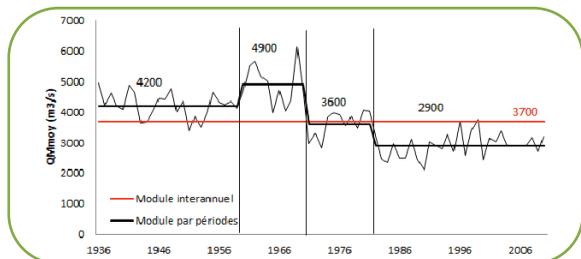


Fig. 2: Sequencing of annual discharges of the Ubangui in Bangui from 1903 to 2011. Discharges are in $m^3 s^{-1}$ by periods of homogeneous hydraulicity.

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