What does the future hold for the forests in the Democratic Republic of Congo?

Innovative tools and mechanisms for sustainable forest management

Reflection and discussion paper - 2007/01

Belgian Development Cooperation be

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LIST OF ACRONYMS AND ABBREVIATIONS

ACDI	Canadian International Development Agency
ADIE	Association de Développement de l'Information Environnementale (Association for Environmental Information)
ATIBT	International Technical Tropical Timber Association
ATO	African Timber Organisation
BTC	Belgian Technical Cooperation
C&I	Criteria & Indicators
C2D	Debt relief and development contract
CAR	Central African Republic
CARPE	Central African Regional Programme for the Environment
CBFP	Congo Basin Forest Partnership
CDM	Clean development mechanism
CERU	Certified emission reduction unit
CIFOR	Center for International Forestry Research
CIRAD	French Agricultural Research Centre for International Development
COMIFAC	Central Africa Forests Commission
CRE-AC	Belgian Reference Centre for Expertise on Central Africa
CUD	University Commission for Development
DAE	Decentralised administrative entity
DGDC	Directorate-General for Development Cooperation
DRC	Democratic Republic of Congo
EC	European Commission
ERAIFT	Regional post-university school for integrated development and management of tropical forests
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FC	Forest Code
FDFS	Forestry Development Focal Sector
FLEGT	Forest Law Enforcement, Governance and Trade
FRM	Forêt Ressources Management
FSAGx	Gembloux Agricultural University
FSC	Forest Stewardship Council
GFW	Global Forest Watch
GGs	Greenhouse gases
HIPC	Heavily Indebted Poor Countries
I-BCS	Ibi-Batéké Carbon Sink Project
ICCN	Congolese institute for Nature Conservation
IFIA	Interafrican Forest Industries Association
IGC	Geographic Institute of Congo
IGN	National Geographic Institute
IGZa	Geographic Institute of Zaire
ISO	International Organisation for Standardisation
ITTO	International Tropical Timber Organisation
KAOW-ARSOM	Royal Academy for Overseas Sciences
KU Leuven	Katholieke Universiteit Leuven
NGO	Non-governmental organisation
NTFP	Non-timber forest product
NWG	National Working Groups
OFAC	Observatory of Central African Forests
OSFAC	Satellite Observatory of Central African Forests
PAFC	Pan-African Forest Certification
PEFC	Programme for the Endorsement of Forest Certification
PES	Payments for environmental services
PMURR	Multi-sectoral emergency programme for reconstruction and rehabilitation
RAPAC	Network of Protected Areas in Central Africa
RBINSc	Royal Belgian Institute of Natural Sciences
REDD	Reducing emissions from deforestation in developing countries
RMCA	Royal Museum for Central Africa
SFM	Sustainable forest management
SYGIAP	Protected Areas Information Management System
UCL	Université Catholique de Louvain
UGent	Universiteit Gent
ULB	Université Libre de Bruxelles
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNF	United Nations Foundation
UNFCC	United Nations Framework Convention on Climate Change
UNIKIN	University of Kinshasa
UNIKIS	University of Kisangani
USAID	United States Agency for International Development
VLIR	Flemish Interuniversity Council
WWF	World Wildlife Fund (Worldwide Fund for Nature)

We would like to thank the members of the Steering Committee of the International Conference on Sustainable Management of the Forests in the Democratic Republic of Congo, in particular: Pierre-Pol Vincke and Sylvie Kedzierski (Office of the Minister for Development Cooperation), Eddy Nierynck (DGDC), Bart Muys (KU Leuven), Guido Gryseels, Hans Beeckman and Eva November (RMCA), Carl Michiels, Jean-Pierre Luxen and Paola Andrea Vallejo Patiño (BTC).

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This document is printed using vegetable ink on paper containing 55% recycled fibres and 45% FSC-certified pulp

BTC is ISO 14 001- and EMAS-certified

The ideas expressed in the following articles are those of the authors only.

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FOREWORD

- *Claude Croizer, Environmental Adviser for the Belgian Technical Cooperation*
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Brussels Conference on Sustainable Management of the Forests in the DRC (ConForDRC)

The International Conference on Sustainable Management of the Forests in the Democratic Republic of Congo (DRC) was held on 26-27 February 2007 in Brussels. It was a unique event in that it consciously elected to focus on the non-extractive uses of forests (for example ecotourism and carbon credits) and on institutional and financial mechanisms (such as trust funds) in implementing sustainable forest-management policies. This review also contains the full text of the Declaration of Brussels, which was read out at the close of the conference.

The conference will be remembered for the active and constructive role played by non-governmental organisations (NGOs) – in particular conservation NGOs and those representing native peoples – in clarifying various points and making valuable contributions to discussions with their first-hand experiences. The role of such civil-society organisations as mouthpieces for environmental and cultural issues is crucial to the democratic process and environmental governance, particularly in the context of the complex environmental and social systems present in Central Africa.

At the end of the conference – which was attended by over 200 participants from a wide variety of institutions and fields (national and international organisations, associations, private-sector players and research institutes among others) and from many different countries – all those involved underscored the need to ensure that practical measures be taken to follow up on the conclusions of and debates held at the conference.

The Belgian Reference Centre for Expertise on Central Africa (CRE-AC) was appointed by the conference to follow up on these issues, in partnership with Belgian development cooperation and the Royal Museum for Central Africa (RMCA) in Tervuren.
The first initiative as part of this follow-up was the publication in June 2007 of a special issue of the &CO magazine dedicated entirely to forests in the DRC. The &CO magazine is aimed at the general public – both Belgian and Congolese – and is edited jointly by Belgian development cooperation and the RMCA.

This review is a second practical step in this context. It is aimed at informed people who want to gain a clearer understanding of the nature and complexity of the challenges and debates surrounding sustainable management of forests in the DRC. Its purpose is to recap selectively and in a structured manner the main themes discussed at the conference as well as to guide and inform decision-makers and devise practical measures by which to implement the concept of sustainable development within the forestry sector in the DRC.

Forests in Congo: coveted and under threat

All participants reiterated the crucial ecological significance – not only for Congo but for the international community as a whole – of the vast swathes of forest in Congo. This area is unique in the world but is also highly coveted and its many uses are often a source of conflict. It is therefore vital that we act now if we are to avoid an irreversible ecological disaster. This, in turn, raises the difficult question of how to reconcile the apparently irreconcilable: economic profitability (productive use of natural resources) and sustainable development, support for the private sector (crucial in the forestry sector) and respect for public welfare, the general interest and protection of minorities, modern techniques and safeguarding of native peoples. All agree that forests are – and will continue to be – a major asset in Congo's future macroeconomic development. Exactly what such development entails and what kind of development is sought remains to be seen.

The conference also provided an opportunity to further refine a number of accepted ideas. Looking at a general map and a few well-chosen photographs, one might be forgiven for thinking that Congo's vast forests are

still preserved and ultimately unaffected by deforestation. This is true in part. But only in part, since countless specialists hold a different opinion. Deforestation in Congo is progressing at a steady rate and along with it the biodiversity the DRC has enjoyed has gradually been eroded over the past decade. Several rare and endemic animal species have virtually disappeared or are in the process of dying out. The same is true of a number of vital tree species. A large proportion of this deforestation is due to the needs of the local – primarily urban – market in wood required for building and charcoal. A great deal of work needs to be done to promote more effective charcoal production, better use of fuel when cooking, and the use of other sources of renewable energy, particularly in towns. Naturally, this also raises the question of the links between poverty and environmental damage, the poorest people in society being forced to take from their immediate environment what they need to meet their fundamental needs. This in turn leads to them living in declining environments where everything becomes that much more scarce, more distant and more expensive. Some people therefore jump to the conclusion that overpopulation and traditional farming methods are to blame for this decline rather than asking themselves what "development models" are in place at international level.

Of course, logging also contributes to deforestation – even more so now that Congo has returned to a state of relative peace and with the focus thereby shifting to major work on the country's infrastructure (roads, ports, railways, etc.). Loggers will require substantial incentives to employ sustainable logging practices. At both central and decentralised level, Congo will need to ensure that legislation (in particular the Forest Code) is observed and that the dividends derived from logging are shared equally.
The development partners must also undertake to support the DRC in this process. There are still many challenges to overcome and these must be tackled within a long-term context.

Yet the concept of 'striking a balance' lies at the heart of these many challenges. How can the fragile balance between forest ecosystems be maintained to ensure development and respect for peoples and cultures? How can timescales (the longer timeframes associated with ecosystems and the shorter ones with economic profitability and political opportunism) be reconciled with the various levels of authority involved (the substantial power of the public authorities and economic players and the weakness of populations and civil society)?

Positive experiences

Despite the many problems requiring urgent attention and which may give the impression of Congo as still being the "Heart of Darkness", the many initiatives and examples of successful partnerships in the forestry sector offer a glimmer of hope.

Native peoples are working together and taking action: their voice is now being heard by international institutions.

Researchers, institutes and research centres are continuing their work and their findings will inform political decision-making and will shape donors' agendas. Dialogue is under way between decision-makers and scientists; the Luki Forest Reserve featured in this review is just one example of this.

National and international NGOs are acting too. Most notably, they have succeeded in bringing the issue of forestry and the environment to the international agenda and into the media – and in keeping it there.

Donors and development agencies are now seeking to establish the appropriate strategies and mechanisms by which to tackle specifically environmental problems – problems which are necessarily complex, global in nature and which must be dealt with via long-term measures. Further details of several examples are given in this review.

What this review contains

Chapter one outlines various tools and recent initiatives designed to provide a deeper understanding of forests. It begins with a presentation of the 2006 Report on the State of the Forests of the Congo Basin. This work – a major scientific feat involving over 100 partners from many institutions – includes a comprehensive overview of the forests of the Congo Basin using biodiversity indicators. It also sets out the players involved in managing forests in Central Africa and documents the dynamic research undertaken and the opportunities for different institutions to work together.

The two other articles in this chapter pertain to the Observatory of Central African Forests (OFAC) and the Protected Area Information Management System (SYGIAP). Setting up the OFAC has enabled African countries to share their experiences in a bid to ensure more effective management of their forest ecosystems. SYGIAP's mission is similar but focuses more specifically on five protected areas in the DRC. Using cutting-edge technology, these projects highlight the new requirements in terms of methodology, for example by correlating satellite images more closely with the realities of the life lived by peoples who are dependent on the forests and their resources. Such comparisons are a crucial element of development work but have too often been overlooked in the past.

Chapter two deals with the main institutional instruments and interim measures designed to promote better forestry management. It contains an analysis of the legal framework (specifically the 2002 Forest Code), an example of practical implementation (management plans) and an assessment of these tools in a social context. The institutional and legal instruments put in place during the difficult period of transition to democracy remain. The main challenge, however, is to make all stakeholders aware of them and to implement them in practice. The complex nature of the challenges posed and the relationships between the various players demonstrates just how vital it is to establish a monitoring system that will both safeguard the rights of individuals and protect the environment. The various articles in this chapter highlight the shortage of Congolese experts able to play an active role in this monitoring process and the need for the international community to continue to support its Congolese partners in this task.

Chapter three concentrates on the economic instruments designed to promote non-extractive use of forests. It raises a number of thorny questions: How does one put a price on a public good? Who should pay for environmental services? A summary of potential funding mechanisms shows us that these innovative proposals are routes which are worth exploring, even if they do not yet offer viable solutions. Such new mechanisms have not yet been fully developed and should be assessed and improved upon. Despite these reservations, this chapter includes several practical proposals. One original initiative concerning storage of carbon dioxide on the outskirts of Kinshasa (Ibi-Batéké project) goes to show that steps taken at local level can also contribute to the wellbeing of the planet as a whole.

An article on setting up a trust fund to support management of protected areas in the DRC details the specific stages involved in establishing such a mechanism based on comparative experience.

The next article demonstrates how important it is to continue certifying tropical timber. The authors give a comprehensive overview of the various methods and processes involved in certification and of both its limitations and the opportunities it affords, and the article sets out the salient points of a debate which has sparked significant interest. It elucidates why, despite the high level of importance attached to the process by the various players involved, certification has so far failed to become established as a consensual tool to be applied on a broader scale.

Finally, the findings of a field survey on non-timber forest products (fruits, mushrooms, root vegetables, bark, caterpillars etc.) demonstrate just how important these products are in home economics. It endeavours to show that a preserved and well-managed forest can guarantee subsistence for local populations as well as serving as a kind of living of pharmacopoeia. Forests are also cultural areas of spirituality to those living in them. They afford real recreational opportunities (ecotourism) and these should not be underestimated.

As you can see, a wide variety of topics are covered in this review. We hope you will find something here that will prompt you to think about the issues for yourself and will be of help to you in pursuing your own activities. In conclusion, we would like to thank the authors of the various articles in this review for agreeing to share their thoughts and experiences.

A wide range of resources are available on the Internet on the subject of forestry. The conference website (www.confordrc.org) contains a series of links on the following topic areas: political economy in the DRC; forestry management, conservation and research; lobbying (on environmental issues and on indigenous peoples); the private sector; initiatives by national and international organisations.

Chapter 1:
Knowledge tools

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REPORT ON THE STATE OF THE FORESTS OF THE CONGO BASIN 2006: PROCESSES AND PROSPECTS

- *Didier Devers, Researcher, University of Maryland, Satellite Observatory of Central African Forests (OSFAC)*

The forests of the Congo Basin make up the second largest expanse of tropical forests in the world after the Amazon. The forests in the Democratic Republic of Congo alone comprise almost 60% of that expanse. As the exchanges at the International Conference on Sustainable Management of the Forests in the DRC held in on 26-27 February 2007 showed, these forests are a source of much activity, in terms both of conservation and of commercial and small-scale logging. This is due to a large number of players, each with their own specific – and often conflicting – objectives. Discussions have also demonstrated clearly that overall, sustainable management of this expanse of forest requires the active and enlightened involvement of all these players and as such, they need to be able to access all the relevant information. By the same token, such information is also required to monitor and assess the action taken by the various parties, the progress made both via said action and in ensuring sustainable management of resources, and, finally, the threats hanging over these resources.

Drafting the report

To meet these requirements, work began on compiling information and data on the forests of Central Africa. A preliminary assessment[1] on the state of the forests of the Congo Basin was published in February 2005. This largely summarised report was implemented by the United States Agency for International Development (USAID) with support from the European Union. The report itself was drafted by a group of experts based in Washington DC and focused primarily on the system of the 12 'landscapes"[2] used by USAID to finance its environmental activities in Central Africa.

It was thanks to the framework put in place in the context of this first report that the idea came about of drafting a second – more detailed – report on the state of forested areas. In late 2005, France, the European Union, USAID and the Central Africa Forests Commission (COMIFAC) decided to compile this second report entitled "*Les forêts du Bassin du Congo : État des Forêts 2006*" (The Forests of the Congo Basin: State of the Forest 2006 – available in French only)[3] , in the context of the Congo Basin Forest Partnership. From the outset, a wide range of players representing COMIFAC, government institutions from the six countries within the sub-region, donors and non-governmental organisations volunteered for the project. The first workshop was held in Kinshasa in late November 2005 at which participants outlined the content of the report and the topics to be addressed. They also drew up a list of indicators to be used to monitor the state of the forests. The indicators drawn up and the completed analyses of the various topics were then presented at a workshop held in Kinshasa in March 2006, before finally being published in late 2006. This workshop, which was attended by some 50 participants representing COMIFAC, donors, private-sector players, conservation NGOs, researchers and observers, aimed not so much to pinpoint errors in the report but rather to reach a consensus on the topics addressed and to plug any gaps in subsequent reports. This meeting was also an opportunity to begin thinking about how to continue with the process in the long term and about putting in place a permanent monitoring tool incorporating all the data required to ensure sustainable and socially responsible management of the region's forest resources.

Content of the report

The 2006 report – the result of unprecedented inter-disciplinary cooperation in the sub-region – involved over 100 participants from a vast array of institutions. It is split into four separate sections. Part One contains a summary of the forests in the Congo Basin, giving readers a general overview of the expansive forest region, its inhabitants, conservation, logging, forces for change and the priority action required to ensure more efficient forest management. Part Two focuses in more detail on several broad-based topics. It includes an analysis of the players involved in the management of forests in Central Africa together with a comparative analysis of forestry legislation in each of the six countries in the region, details of mapping practices and a study of how the forest canopy has evolved. It also discusses the significance of, limitations on and prevalent trends in the timber industry in the six countries covered by Central Africa's forests. Part Two concludes with an analysis of the environmental aspects of industrial timber logging in the sub-region. Part Three gives a systematic description of the 12

1. Available from the CARPE website at: http://carpe.umd.edu/resources/sof

2. In this context, "landscapes" are multi-purpose areas combining conservation, local management and extractive activities

3. Available from the CARPE website at http://carpe.umd.edu/resources/sof and from the CBFP website at http://www.cbfp.org/documents/Les_forets_du_ Bassin_du_Congo_etat_2006.pdf

landscapes within which the conservation NGOs financed by USAID in the framework of the CARPE programme operate. A description is given of each particular landscape's physical environment, vegetation, flora and fauna. A brief outline of the human populations living in these areas is also included, as is a description of the conservation measures taken in that particular landscape along with a list of the players involved and a status report on the direct and indirect threats encountered. Part Four, the annexes to the report, contains various summary reports concerning both the countries themselves – indicators in terms of legislation, institutions and industrial uses – and the landscapes in the context of the CARPE[4] programme (biodiversity indicators).

4. Central African Regional Programme for the Environment (CARPE): http://carpe.umd.edu

Lessons learned

Although drafting and compiling the report was difficult at times, some of the difficulties encountered enabled its authors to highlight a number of obstacles, which, when resolved, will not only make drafting future reports much easier but will also help to put in place a valuable tool in monitoring the forests of Central Africa. Firstly, despite the many players involved in drawing up the report, a lack of dialogue and clear communication as to the goals pursued slowed down the process substantially. This demonstrates the need for better explanation and dissemination of the methods to be used and the goals to be achieved. Secondly, the difficulty in coordinating activities in the field and the failure to exchange information efficiently between the players involved made accessing data problematic. Where such data existed, much of them were unreliable or incoherent. This lack of reliability and coherence meant that it was particularly difficult to compile, harmonise and in turn analyse the data. Finally, the problems encountered in producing results for the majority of the indicators used showed clearly that there were too many of them and that they were too complex and too broad. Despite all these difficulties and shortcomings, drafting and producing the report demonstrated that it was indeed possible to combine a variety of different interests and to lay the foundations for a valuable working, diagnostic and monitoring tool.

Prospects

The immediate objectives of the report were to make information and data available to all stakeholders involved in the management and use of the forests of the Congo Basin. The progress made to date has been outstanding in many respects. However, there is still much to do in finding out more about the state of these forests – publishing the report is just the beginning. It is vital that we promote, facilitate and enhance communication and consultation between all players involved to ensure that they are all aware of the action to be taken in managing and monitoring the Congo Basin. At the same time, data (both existing and new) need to be compiled, consolidated and systematised. These data must then be made available to everyone at local, national and regional level and care must be taken to ensure that they are presented and consolidated in a way which meets the needs of the various groups involved. Finally, a range of indicators – both simple and targeted – must be drawn up to monitor trends and changes in forest ecosystems; mechanisms must also be put in place to monitor these indicators. Communicating in this way together with harmonising and monitoring data should enable us to reach a consensus as to how we can best work together to firmly establish this process and to manage these ecosystems in a sustainable manner. The report not only contains useful information for decision-makers, the scientific community and the general public but also seeks to assess the progress made to date in improving sustainable management of natural resources. It is also designed to help preserve forest resources so that they can continue to make a valuable contribution to improving the standard of living of local populations while at the same time enabling nations to develop and preserving biodiversity. To see this vision translated into practice – a concept voiced in the Declaration of Brussels on Sustainable Forest Management in the Democratic Republic of Congo – the process set in motion in the drafting of these two reports must be supported and maintained. During 2007, the Observatory of Central African Forests (OFAC) – an initiative by several members of the Congo Basin Forest Partnership (CBFP) – will be set up and will receive technical, financial and institutional support (see p. 14). This support should also be aimed at developing and putting in place a permanent monitoring tool, based in the region, designed to provide and disseminate reliable and up-to-date information on forests and the various players involved on a regular basis. Having this information and these data readily available will also help to ensure good governance and this, in turn, will ensure that natural resources are managed in a truly sustainable manner.

Luki: Scientific research at the heart of a forest reserve

• *Hans Beeckman, Head of the Laboratory for Wood Biology and curator of the Xylarium, Royal Museum of Central Africa (RMCA)*

The Royal Museum of Central Africa is helping to support scientific research at the Luki Biosphere Reserve via projects pertaining to (1) microfauna and fish, (2) the main social and political relationships in the field of forestry, (3) the dynamics of the forest environment as observed through wood analysis and cambial activity, and (4) reassessment of databases and information gathered. The preliminary results confirm that the reserve has considerable scientific potential. Initial research into moths and spiders, for example, has already demonstrated that compiling and in-depth inventory of the wildlife present within the Luki Reserve would easily smash a number of world records in terms of biodiversity.

There are certainly plenty of arguments in favour of preserving tropical forests. There are two parallel visions, though. For some, it is a question of putting forward strategies by which to ensure the rational management of forests and their products (the watchwords in this context are "sustainable use"), while for others the priority is to maintain forests in their present state without adding, modifying or removing anything. It is vital that some forests be preserved on account of their significance in terms of scientific research. In the DRC's Lower Congo province, the Luki Biosphere Reserve is all that remains of the beautiful Mayombe forest, which has been logged for decades and has suffered extensive deforestation due to its proximity to the port of Boma. Creating, managing and maintaining this reserve would not have been possible without the help of scientists. The establishment of the Luki Reserve in 1937 meant that people who had previously lived dispersed throughout the forest were grouped together into four enclaves. Grouping the people together in this way was designed to make it easier to monitor human activity within the forest structure. Test plots – each covering an area of several hundred hectares – were set up to pilot new forestry practices. At the same time, other test plots covering the same area were also set up for monitoring purposes and to provide a statistical analysis of the impact of forestry practices. In other locations, agroforestry (the term currently used) experiments were run combining forestry (generally species of *Limba-Terminalia Superba Engl. and Diels)* with crops of bananas, coffee and cocoa. Until the 1970s, intensive experiments with species of "noble woods" and forestry processing techniques were conducted to stimulate natural regeneration. In addition, a central area covering over 10,000 ha remained intact. Teaching of tropical forestry often makes reference to experiments carried out at Luki, one example being the process of "*standardisation par le haut*" (UH – upward standardisation) designed to increase the proportion of noble wood species by eliminating secondary species. Modern forestry management, which is based on sustainability and quality, has been shaped by the experiments conducted at Luki.

Despite this intense anthropic pressure, the reserve still has significant research potential and coordinated action by the various stakeholders is required if Luki is to be preserved. Tree felling and production of wood charcoal on the test plots is hampering the work scientists have been conducting there for over 50 years. Despite its limited resources, the scientific world has a moral duty to carry out *rescue sampling* [5] . It is therefore vital to evaluate this experience gleaned over more than 50 years since these long-term observations are crucial to forestry practices. Such long-term observations are possible at Luki: there are very few other locations anywhere in the world conducive to comparable research over a similar period.

5. Studying or taking samples of a species before it becomes extinct

In a developing country such as the Democratic Republic of Congo, it is certainly becoming increasingly difficult to justify isolating science from its local context – and it is not different at Luki. The local population relies on the forest for food and materials but also as a source of revenue through the sale of wood charcoal and game. It is therefore extremely important to keep the local population informed in a transparent manner of the purposes of and progress made in scientific research. Acceptance of this work by the local population is the best way of ensuring that the reserve is preserved and that the scientific work carried out there is successful.

OBSERVATORY OF CENTRAL AFRICAN FORESTS: PROVIDING MORE DATA ON FORESTS TO INFORM MANAGEMENT DECISIONS

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Summary

The aim of the Observatory of Central African Forests (OFAC), referred to in this review as the Observatory, is to provide African countries with a tool they can use to manage and share information to ensure better governance and sustainable management of forest ecosystems. They will then be able to preserve biodiversity and ensure the wellbeing of the populations dependent upon it. The approach taken by the Observatory is based on national and international capacity-building via the active involvement of the human resources available in the region itself.

The forestry sector: a key element in regional development

Forest ecosystems and the resources they provide are vitally important in African countries and the forestry sector as a whole is crucial to these countries' economies. They account for a significant proportion of GDP (ranging from 2% in Congo to 9% in Cameroon) and provide jobs for many of the active population (ranging from 4,000 in the Central African Republic to 25,000 in Cameroon). In all countries, the forestry sector is the main private-sector employer as well as being a source of considerable economic activity in the informal sector. In Gabon, it provides employment for 28% of the active population but accounts for only 2.8% of GDP. The demographic increase and, in some countries, the drop in oil production and the increase in illegal (and therefore non-sustainable) exploitation of natural resources (logging, hunting and fishing) mean that there is a serious risk that such resources will become scarce and populations impoverished.

The table overleaf shows the areas covered by forest and how these changed between 1990 and 2000.

In recent years, the countries of Central Africa have shown a desire to integrate their respective forestry policies. Accordingly, since 1992, there have been several regional integration initiatives including COMIFAC and the Congo Basin Forest Partnership (CBFP). COMIFAC was set up in 2002 in response to the acknowledgement by these countries that the sustainable management of natural resources, and of forest resources in particular, was vitally important in shaping their strategies on sustainable development and in combating poverty. COMIFAC is the only political and technical body providing guidance, coordination and decision-making in the field of conservation and sustainable management of forest and savannah ecosystems in Central Africa.

Forested area and annual rate of deforestation in Central African countries		
Country	**Forested area in 2000 (in thousands of ha)**	**Net deforestation 1990-2000 (% per year)**
Cameroon	19,639	-0.19 %
Central African Republic	6,250	-0.07%
Congo	22,263	-0.03%
Equatorial Guinea	1,900	Not available
Gabon	22,069	-0.16%
DRC	108,339	-0.26%
Central Africa	**180,460**	**-0.19%**

The meeting held in Yaoundé in May 2004 was an opportunity to ratify a priority action plan (Convergence Plan) for the period 2005-2010, adopted at the Summit of Central African Heads of State in Brazzaville in February 2005. COMIFAC is setting up a partnership with sub-regional bodies in the environmental/forestry sector such as the African Timber Organisation (ATO), the Association for Environmental Information (ADIE), and the Network of Protected Areas in Central Africa (RAPAC) as well as with international bilateral and multilateral cooperation organisations, NGOs, private foundations, professional organisations, and training and research bodies. It is also the main institution within the Congo Basin Forest Partnership (CBFP), which comprises 29 members from national governments, international institutions, the Nordic countries, NGOs, the private sector and so forth.

Why set up a forest observatory?

There are two main reasons why a tool such as the Observatory is required:

- players in the forestry sector (governments, international conventions, donors, the private sector, NGOs, civil society) lack an overall vision of what goes on in forests. Each group has only a part of the information and knowledge on these forests. The information available is therefore fragmented and disparate;
- much of the activity – both legal and illegal – in the forestry sector is conducted in an unstructured and non-transparent manner due, in part, to a lack of skills and knowledge but also to the desire of some players to mask illegal activities.

COMIFAC's Convergence Plan is specifically designed to set up an **observatory** to:

- integrate the existing information into a network to enhance knowledge of forest resources (wood, fauna, non-timber forest products, medicinal plants, etc.);
- implement protocols concerning the collection of data in order to generate quantified information on the different types of illegal felling;
- make monitoring easier in a bid to improve and promote management plans in respect of logging concessions and protected areas.

Given this dual purpose and political will, several members of the CBFP decided to pool the resources used in monitoring the economic, social and ecological dimensions of forests within the Observatory. The Observatory project marks further progress in and builds upon the noteworthy drive to share knowledge first demonstrated in compiling the report "The Forests of the Congo Basin: State of the Forest 2006".

Structure of the Observatory

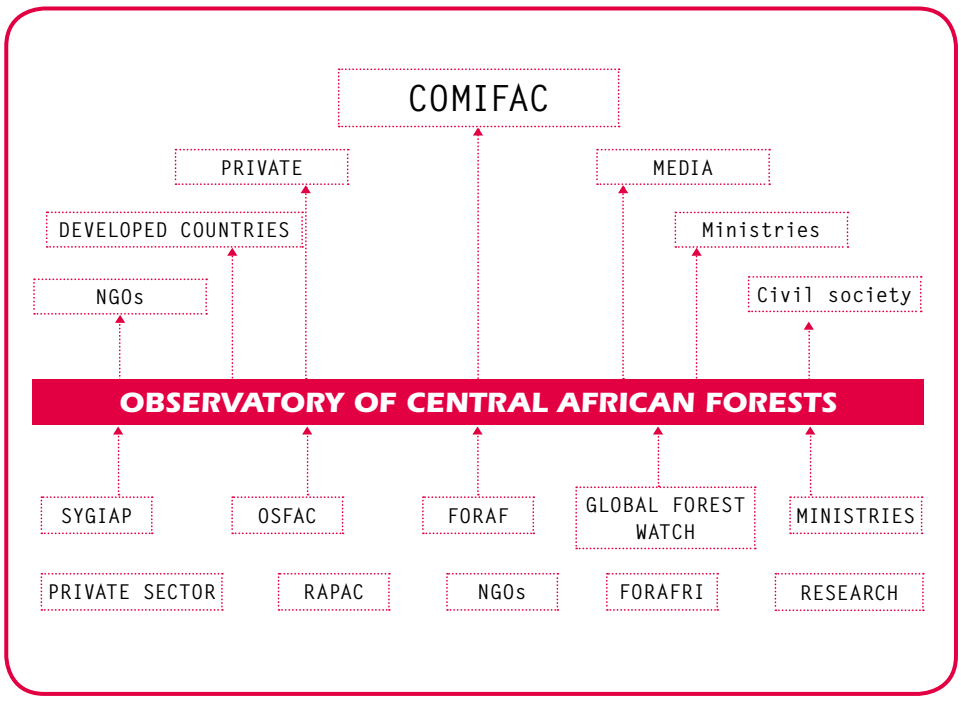
In disseminating knowledge and through the monitoring systems in place, the Observatory serves as a permanent tool to enable COMIFAC and the CBFP to shape decisions on forestry issues. The presence of an institution such as this should also ensure long-term financial sustainability – one of the key challenges in this field in Central Africa. It is important to remember that in all countries in the world, the environmental information sector operates on the basis of public funding and that the international community has pledged to support the

Congo Basin. For example, the CARPE programme, with which close links have already been forged, is based on a strategic plan due to run until 2015.
By definition, the Observatory operates as part of a network with many other institutional and technical partners. The aim of the project is to enable African (COMIFAC, forestry ministries, RAPAC, ATO, etc.), European and international centres and institutions to work together within an open framework in seeking to achieve the ultimate goal of promoting sustainable management of forestry resources for the benefit of local populations.

A number of past and ongoing initiatives are worth mentioning in the context of this drive to collate and analyse environmental information:

- the SYGIAP project, conducted by a consortium of Belgian universities (UCL and UGent) and funded by Belgium's Federal Science Policy, has made numerous databases available to the Congolese Institute for Nature Conservation (ICCN) on UNESCO World Heritage Sites in the DRC;
- the Network of Protected Areas in Central Africa (RAPAC) focuses on collecting and harmonising data on the network's areas;
- the Global Forest Watch (GFW) project has been monitoring forest usage by satellite in Cameroon since 2001 and in Congo since 2003 and is hoping to extend the system to other countries in the region;
- the Satellite Observatory of Central African Forests (OSFAC), funded by CARPE, is seeking to promote rational use of satellite imaging to provide forestry information in Central Africa.

To bring all these initiatives together, the European Commission decided to set up a permanent unit in Kinshasa – the African Forests Observatory (FORAF) project – in agreement with the other CBFP partners. The unit has been in operation since May 2007 and will continue for three years. The project is managed by the European Commission's Joint Research Centre and its scientific activities are carried out by a consortium of scientific institutions led by *CIRAD-Forêt* (the French Agricultural Research Centre for International Development) and comprising the Center for International Forestry Research (Indonesia), the company *Forêt Ressources Management* (France) and the *Université catholique de Louvain* (UCL). In due course, the FORAF unit in Kinshasa will be merged with other active initiatives in the field (such as OSFAC, for example).



Activities and anticipated results of the Observatory

The purpose of the Observatory is to give forestry operators a broad view of the sector. Its activities include:

- capacity-building in collection of reference data by compiling a report on dense humid forests and the socio-economic aspects associated with the use of forestry resources in Africa;
- putting together thematic follow-up measures concerning the natural and socio-economic environment to assist with decision-making and to promote sustainable management of forest ecosystems;
- setting up a long-term, regional observatory mechanism in coordination with other regional partners.

=> Result 1: Capacity-building in collection of reference data by compiling a report on dense humid forests and the socio-economic aspects associated with the use of forestry resources in Africa

Compiling a report on humid forests in Africa will enable us to enhance skills (capacity-building) at national and regional level in identifying, collecting, processing and disseminating reference data in terms of environmental considerations as well as social, economic and institutional aspects. Computerised data are structured into a progressive meta-database which can be consulted online or distributed on CD-ROM. The information indexes and databases are structured around the various corresponding sections of the follow-up measure to enable advanced users to view the changes. They are also updated regularly, with the follow-up data being entered at either six- or twelve-month intervals to provide an interface which is as up-to-date as possible and suitable for use by the general public. The following main indexes and databases are included:

- environmental: geology, geomorphology, pedology, climate (pluviometry, radiation, etc.), vegetation and fauna, non-timber forest products, habitats (forest and non-forest), commercial species;
- socio-economic: basic demographic and social data, wood processing facilities;
- institutional: logging concessions, protected areas, forestry players, development projects, legal and institutional texts, forestry rules.

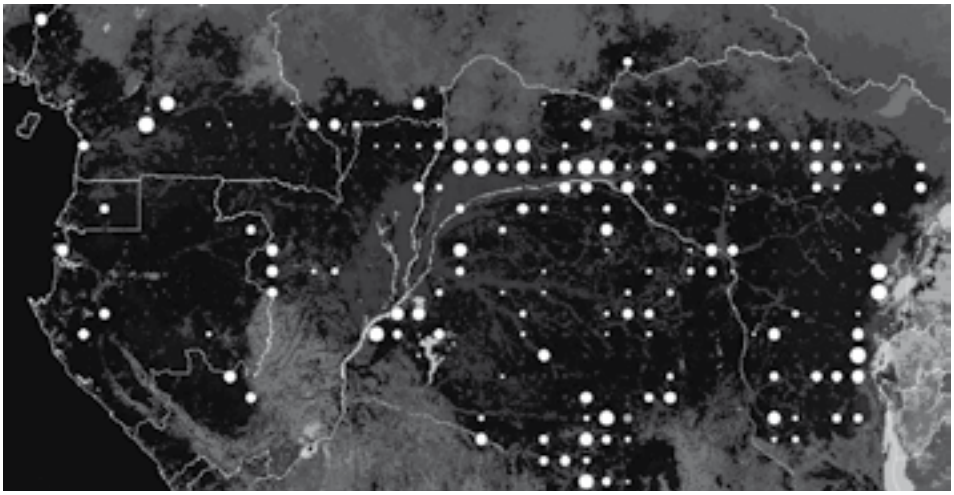
=> Result 2: Putting together thematic follow-up measures concerning the natural and socio-economic environment to assist with decision-making and to promote sustainable management of forest ecosystems

The ecological, economic and social characteristics of forests in Central Africa are constantly changing. It is therefore important to devise an underlying basis for holistic monitoring of the state of forests in Africa to ensure that the information contained in the report is regularly updated and, more specifically, to ensure that this information is analysed with a view to combating illegal use of forest resources. Several types of monitoring are planned:

Monitoring deforestation

This entails monitoring changes in forest cover via remote detection and analysis of the causes of forest deterioration (political, climatic, socio-economic factors). The first detailed assessments of deforestation in the Congo Basin (see map overleaf) carried out by the Joint Research Centre and UCL show that deforestation is concentrated on the fringes of the forest region, primarily in the regions of Gemena, Lisala and Bumba in the North, Ilebo and Kananga in the South, Bukavu, Goma and Butembo in the East.

Map showing the forests of Central Africa and areas of deforestation



The diameter of the white dots indicates the level of deforestation.

Monitoring logging

- Concessions and logging: logging roads and logging density via satellite imaging, monitoring on the ground of voluntary concessions based on indicators selected following negotiations
- Timber industries: changes in a range of technical and economic indicators (material yield, number of species logged, proportion of lumber dried mechanically, etc.)
- Informal channels of small-scale logging: annual estimate of the amount of timber harvested via the informal sector using an observation network to record the amount of timber delivered to the main towns
- Analysing the various ways in which timber is harvested illegally: impact of illegal harvesting on the environment and conflicts, analysing the regulatory framework and its impact on changes in the illegal harvesting of timber, balancing the estimated potential sustainable production against changes in demand for timber in countries.

Monitoring the importance accorded to and preservation of biodiversity

- Protected-area networks at local, national and regional levels: annual assessment of each protected area using indicators to express its value in terms of conservation, the pressures upon and management of it, maps indicating pressure in and around protected areas
- Exploitation of wildlife: main trading centres for game and supply routes to capital cities, compiling a list of indicators for simple market monitoring
- Exploitation of non-timber forest products (NTFP), farming and the impact of these on forests.

=> Result 3 : Setting up an observatory mechanism

Challenges

The main challenge for the Observatory is to continue the process once the current funding has ceased and to allocate the various tasks involved among the institutions in charge of managing forests in Central Africa, primarily COMIFAC. To this end, several key work areas have been defined, starting with setting up mechanisms via which to share information. This entails harmonising existing data, integrating all the different methods used to collect new data into a coherent whole, and laying down intellectual property rights and rules concerning the use of data. The following main features need to be established within the Observatory:

Fleshing out the database and enhancing the website

The Observatory includes:

- a document database (comprising documents created as part of the project or collected from other sources) and associated metadata;
- a geographic database together with associated metadata;
- a website enabling people to consult all metadata, documents and research findings and containing links to other related sites (specifically the websites of the CBFP, COMIFAC, various technical partners, an interactive map produced by GFW and the Global Forest Information Service).

Capacity-building

Although training is not its primary purpose, the Observatory has a dedicated capacity-building section. After all, the Observatory's long-term future depends largely on the availability of technical and scientific managers who are well-trained in the various aspects of the Observatory's work. This requires ongoing training throughout the programme and links with forestry training programmes in the region.

Use of the Observatory's findings by national players

Whether or not African institutional and operational players make effective use of the Observatory's findings will be a key factor in the project's success. Quite clearly, the Observatory needs to continue playing a technical role in providing the information required for decision-making, this information being passed on to the various governments concerned by COMIFAC. The Observatory's findings will be used by COMIFAC, national governments and organisations (research, technical consultancies), forestry managers and developers (concessions, protected areas) and conservation NGOs.

Dissemination of the Observatory's findings

The main product of the Observatory's work is the updated version of the report on the State of the Forest, a project conducted under the aegis of COMIFAC within the framework of the CBFP and with the active support of the European Union, the United States and France. This report sets out the main economic, social and environmental indicators in respect of the forests of Central Africa. The Observatory is helping to compile, update and disseminate this document.

The Observatory: a tool for the future

The Observatory will be a vital tool for African countries in monitoring forest ecosystems. Designed also to assist in decision-making, the Observatory should be fully operational from early 2008.

The approach adopted focuses on utilising the region's own human resources and promotes capacity-building at various levels. Nevertheless, the success of this kind of management tool will depend on how effectively the various partners involved are able to work together:

- organisations collecting data on forests (ministries, the private sector, NGOs, research institutes, etc.) must agree to pool their knowledge bases. Combining all these data will lend it considerable added value;
- political decision-makers need to learn how to manage the scientific and technical data produced by the Observatory's various teams, in particular geographic data, which are often under-used in this field;
- the teams involved in analysing data within the Observatory need to be able to guarantee the scientific ownership rights of each partner and must be able to deliver products which are suitable – in terms of both content and presentation – for use by decision-makers.

MAPPING AND REMOTE MONITORING OF FORESTS TO ENSURE SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES. INITIAL EXPERIENCES WITH THE SYGIAP PROJECT FOR WORLD HERITAGE PARKS IN THE DRC

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Mapmaking is much more than simply noting features and words on a sheet of paper, however large. Mapping an area of Congolese territory first entails mobilising a number of players, hitherto unknown to each other, collating all the knowledge available on the area in question, agreeing on whether the information collected is accurate, and electing to depict an area based on more detailed information than is available in the field alone. Mapping a tangible area means sharing it and, for most part, simply making it 'real'.

Mapmaking also means documenting an actual situation or 'reality' for use as a springboard for future progress. Indeed this was precisely how the **Protected Areas Information Management System (SYGIAP)** came about, on the initiative of the World Heritage Centre (UNESCO) and the Congolese Institute for Nature Conservation (ICCN), and which was designed and developed by the *Université catholique de Louvain* (UCL – Geomatics) and the *Universiteit Gent* (Department of Geography) in close cooperation with the ICCN and its international partners. For five years, the two Belgian universities worked closely with a variety of Belgian federal scientific institutions[6] and were financed by the Belgian Science Policy Office; activities conducted in the DRC were funded by the United Nations Foundation (UNF) via UNESCO.

With five protected areas included on the World Heritage List[7] , the DRC should ensure that these areas are preserved and valorised in a sustainable manner. The stakes are high and the task is no small one in mapmaking terms! The Salonga National Park, for example – which is larger than Belgium and which can only be accessed via a four-day journey by motorised canoe from Mbandaka – has not been mapped since 1949. No aerial photography coverage of the area has ever been performed. The boundaries of the five protected areas were determined between 1925 and 1970 although not all have been marked in the field. However, conservationists with the ICCN and its staff have managed to monitor these areas remarkably well, despite some having sacrificed their lives for their passion to preserve nature.

It is thanks to combined national and international perseverance, three different forms of spatial technology and a shared desire to achieve tangible results that countless major obstacles have been overcome. The main challenge was to have many different partners work together to produce maps on a scale of 1:200,000 of the five protected areas. However, it was crucial for this project to be more than one of mapmaking alone and for it to impact on the conservation and management of natural resources as well. The first challenge was to build up a feeling of mutual and long-lasting trust between the 17 partners from all over the DRC in contributing actively to the initial task, which focused primarily on collecting and sharing data. The next task was a technological one: given the lack of recent mapping documents at all levels, an appropriate database of geographic data and maps had to be created.

An outstanding partnership

In October 2003, some 50 people met in Kinshasa to ascertain the primary information required to manage parks, identify critical problems and to work together – surrounded by maps and laptops – to compile an inventory and enter the relevant data. With the work complete, everyone involved was given a CD containing the data in question: a collective spirit was born. The work was only just beginning, though, and the remaining issues were far from easy to solve. The data used by individual parties were not always compatible and its origins were often not adequately documented. Some NGOs operating in various parks had unilaterally got hold of old maps and had rounded them out more or less in the field. This resulted in there being three or four different sets of boundaries in circulation for each park and no-one knowing which version was correct. Even ICCN staff on patrol in the field were not always certain where the respective boundaries lay. There was a great deal of confusion

6. The Royal Museum for Central Africa (RMCA), the Royal Belgian Institute of Natural Sciences (RBINSc) and the National Botanic Garden of Belgium

7. Garamba National Park, Salonga National Park, Virunga National Park, Kahuzi-Biega National Park and the Okapi Wildlife Reserve

over the data themselves and the potential use thereof. Fortunately, all parties agreed that a geographical database was required which could be used on a scale of 1:50,000 (the same scale as that used in the field), that a common benchmark was needed, and on the practical value of having basic maps printed on paper on a scale of 1:200,000 as working documents. The universities involved acted as catalysts, implementing quality-control procedures and data-collection protocols in the field using the pre-determined scales.

When work began, the DRC no longer had any basic geographical documentation on the country. In fact, when the National Geographic Institute (IGN) and its Congolese counterpart (the Geographic Institute of Zaire at that time) edited the most recent edition of the country map in 1988, all trace of any basic mapping system had already vanished, buried amongst the historical upheaval of colonialism. It would take extensive sleuthing and investigation involving every Belgian and Congolese cartographical specialist (the Royal Museum of Central Africa, the IGN and the Geographic Institute of Congo, the ICCN and two university teams) to hunt down the projection system used at the time. Having re-discovered it, though, and in a bid to ensure ongoing and coherent mapping of the entire Congolese territory, a map reference system (ellipsoid, projection system, etc.) was set up for the DRC. For the map scale (1:200,000) the Universal Transverse Mercator (UTM) projection was used – on account of its high quality at this latitude – along with the World Geodetic System 1984 (WGS84) as the benchmark ellipsoid – for its compatibility with the GPS system[8] .

8. See http://www.geoweb.ugent.be/sygiap/docs/ref_geo_rdc_v6a.pdf

Technological challenges

The second challenge was one of a technological and scientific nature. How could we produce a reference map over such extensive areas, some of which were quite simply inaccessible in terms of safety? How could we build upon the knowledge and key work in the field done by the ICCN's staff and their scientific and development partners? Three quite distinct forms of spatial technology had to be combined to enable each party to fulfil its individual role.

Observing the Earth using a high-spatial-resolution satellite is the lynchpin of modern mapmaking in this type of context. Constantly recording images under normal lighting conditions and using infrared technology, LANDSAT satellites have for many years provided full coverage of the DRC with minimal clouding. However, using satellite imaging to create maps means that said imaging must be correctly positioned and that any distortion due to terrain relief needs to be corrected.

The recommendations by the SYGIAP project on recording details in the field using GPS (global positioning system) technology enabled members of the ICCN and NGOs to collect precise, first-hand information which was compatible with the mapping system being used. Travelling along waterways by canoe, prospecting routes on foot and roads offering varying degrees of accessibility by car, many of the locations pinpointed by the GPS system could be used to correctly position the satellite images and to check the geometric accuracy of the images received. However, substantial areas of the parks were still inaccessible and an original method of referencing had to be devised based on historical maps and outdated aerial mosaics.
On the old maps, elevation data are often insufficient or non-existent. Fortunately, the United States' Shuttle Radar Topography Mission (SRTM) delivered on its promise and, in 2004, created a new worldwide digital elevation model (DEM), which could estimate average elevation over a 90-m grid (raster) with an average vertical accuracy of 15-20 m. The resulting elevation database provided a degree of accuracy sufficient to correct image distortion due to areas of terrain relief as well as to construct a digital model of the area showing the contour lines crucial to any topographical map.

Georeferenced and orthorectified LANDSAT mosaics with a spatial resolution of 30 m were used as a basis on which to compile vector data for roads, drainage systems and anthropic features. The interpreted images were compared on an ongoing basis with other available sources (historical maps, reports, etc.), in particular in preparing the gazetteer. Villages were located using either existing documentation or details taken from GPS information. These data were then mapped in vector form and incorporated into a Geographic Information System (GIS) and submitted to the ICCN and NGOs for verification.

The lack of any solid map-based reference as to park boundaries was the source of considerable conflict at local level. The utmost care was therefore required in establishing the precise location of official boundaries. Since only features of the landscape are visible on satellite images, it was a case of studying very closely and in great detail the original decrees detailing the location of the parks' boundaries and their possible amendments in order to indicate said boundaries as accurately as possible on the new maps being produced. Once incorporated into the geographical database, they were forwarded to the ICCN to be verified and to enable conservationists to comment on them. Since no boundaries have ever been physically marked out on the ground, these maps are currently the only reference source for conservationists and their partners. The various protection areas need to be clearly and precisely marked out to facilitate dialogue between nature conservationists and local people and to preserve the habitats and biodiversity of outstanding natural environments.

The map reference material produced includes the information contained in the main layers of the database. The planimetric key indicates several types of roads, administrative and park boundaries, the drainage system (split into several levels), populated areas, ICCN patrol posts, infrastructure, landing strips and so forth. Elevation is indicated using contours generated using the SRTM digital elevation model. The same digital model of the Earth is included as an insert on the pages in the form of a map showing hypsometric zones. The maps are produced in two forms: either 'raw', i.e. not containing any specific thematic background, or in the form of a satellite image map with the background contained in satellite mosaics. In the case of the latter, the background is created using the colour composites generated by bands 4, 5 and 7 of the LANDSAT Enhanced Thematic Mapper (ETM). The maps are also laid out in conventional style and include a brief description of the park concerned.

A tool for institutions

Upon completion of the four workshops bringing together countless Congolese and international partners and a series of training modules in mapmaking and the GIS, not only had the fundamental maps been compiled and printed, but an entire Protected Area Information Management System (SYGIAP) had been set up within the ICCN. And herein lies the project's third major achievement: far from simply being both a single data model covering all parks and reserves and an interactive map database, the SYGIAP has evolved into a method for structuring institutions to ensure that information on protected areas is circulated and used to its full potential within both the ICCN and its partner organisations active in research and development.

To ensure that all the work by the various parties was combined into a coherent whole, a SYGIAP unit was set up within each World Heritage park, equipped with a computer to regularly update the map databases; these units currently form part of the official structure of the ICCN. Structuring the ICCN in this way should enable information to be circulated and used appropriately as well as ensure that it is validated and archived in the long term. The ICCN uses the SYGIAP to answer questions from the various ministries. The system is also used by the country as a whole in complying with its obligations under international conventions (such as those associated with World Heritage status). The sustainability of the SYGIAP is directly linked to its practical value to ICCN's staff and to those of the organisation's partners, in terms both of practical management of a protected area and coordination of the activities of local players, and of its role in decision-making processes and reporting at national and international level.

Two specific activities crucial to nature conservation – law enforcement monitoring (LEM) and biomonitoring – are carried out routinely during patrols by the ICCN and its partners. LEM data on criminal activity observed, surveillance and the frequency of patrols are vital to day-to-day management and are an integral part of the SYGIAP system. By the same token, biomonitoring – which entails assessing biodiversity through soil samples and is often carried out with research teams – generates a large volume of data which must then be linked directly to cartographical data. The ICCN has in the past organised a wide-reaching forum seeking to standardise both the survey methods used and the type of data. Belgian federal scientific institutions such as the RMCA and the RBINSc, supported via the SYGIAP project, have, for their part, conducted an in-depth analysis of their documentation on these parks and hundreds of archive photographs have been scanned, georeferenced and incor-

porated into the SYGIAP system. These photographs – many of which are of a high quality – depict landscapes which have now vanished and are vital in understanding the moves under way.

Beyond protected areas

Mapping the national parks themselves was just one stage of many. The parks still had to be mapped within the national territory as a whole in order to reconcile the relevant nature conservation strategies with restrictions on logging concessions, mining activities and development of new infrastructure. Thanks to the progress made for the parks themselves, the team from UCL, along with the Belgian National Geographic Institute and the IGC, produced both a general map on a scale of 1:2,000,000 covering the entire area and a national map detailing the different types of vegetation and land use [9] .

9. See http://www.enge.ucl.ac.be/cartes-RDC/index_EN.html

For a century, cloud cover over the Congo Basin had foiled all attempts to map vegetation on a national scale. For several years, the VEGETATION mapper on board the SPOT satellite, has been observing the entire planet Earth everyday at a resolution of 1 km. Thanks to the excellent level of calibration of its mapper and precision-management of its geometry, the 366 images captured in 2000 have helped to produce previously unseen overall views of the Congo Basin. By meticulously interpreting reflectance measured at different wavelengths, it has been possible to identify and map 17 different types of vegetation on a scale of 1:3,000,000. Two types of information have proved especially useful in this regard: the infrared channel, which is not always available with remote mappers and analysis of seasonal changes provided by a series of measurements taken at different times over the course of a full year. Thanks to valuable cooperation from specialists in Congolese vegetation, it has been possible to link the floral descriptions given by these experts with information recently detected remotely. This new map of land use in the DRC gives a unique overview of national territory and underscores the impact of human activities going on throughout the forest ecosystem of the Congo Basin. The estimated surface area of the forest – 1,120,340 km^2 – covers 47.4% of Congolese territory and comprises four types of forest: dense humid forest, edaphic forest, secondary old-growth forest and young secondary forest. This assessment is very similar to that recorded by the FAO's Africover project that, since it was based on data with a resolution of 30 m, produced a result which was less spatially coherent and for which the key was less detailed.

Remote detection is not only a vital tool in mapmaking but can also be used in a rapid-response context. As long ago as 2002 researchers showed that it was possible to monitor, in operational terms, the impact of increased logging within concessions. Accordingly, logging routes can be seen on aerial images for up to three years after any given logging operation. In May 2004, spaceborne remote sensing proved extremely useful during an unprecedented crisis involving the Virunga National Park. During a regular flight over the park in late May 2004, the WWF observed catastrophic damage to the Mikeno section of the park not far from the area inhabited by mountain gorillas. Reports in the field indicated that rapid deforestation had occurred on a massive scale in the south of this section. The speed and magnitude of the process was unprecedented but nobody was able to quantify its precise extent due to poor accessibility and local safety issues. Using systematically archived data, a LANDSAT image from January 2003 showed the situation prior to the crisis. At the same time, fresh observations were programmed via the SPOT 5 satellite. The first image of Mikeno from SPOT 5 was obtained on 7 June 2004 and was processed immediately to produce a satellite image map showing clearly the extent of the deforestation, which was estimated to cover some 700 ha. The ICCN and its partners alerted the international community at once, primarily on the basis of the SPOT image, which was considered to be the most objective and indisputable evidence available. On 3 July 2004, a second image was received from the SPOT 5 satellite, showing that the deforested area had increased to 1,500 ha; what had been an area of dense forest just two months previously had now been taken over by people and their livestock. This new information was sent to political players at the highest level, who followed developments closely. In the following weeks, international pressure ensured that the clearing worked was halted and some 6,000 people were removed from the area. Naturally it is not unusual to use satellite images to assess the extent of an ecological disaster but this was probably one of the very first occasions on which it was used in real time to focus on the key aspects of a process and ultimately, to change the course of events.

Very recently, semi-automated techniques to detect changes using object-oriented segmentation have been used routinely to map large areas. Using this approach in peripheral areas of the northern part of Virunga National

Park has made it possible to compile maps showing anthropic pressure around protected areas. Having combined this information with a functional analysis of the territory using GIS, work is under way to draw up management proposals and measures which can be implemented in buffer zones to reconcile increases in local populations with conservation of a quite exceptional natural heritage.

Prospects

Producing maps has been a particularly unifying process which has gone far beyond its initial objectives. In order to produce these invaluable paper maps, it was first of all necessary for all parties to take a step back from their own individual views and to agree on the actual territory in question. A relationship based on trust had to be built up along with a dialogue and sense of constructive criticism to ensure that all players were able to drive forward the work of others. A great deal of patience was also required since mapmaking is a slow process; in this context, it could only move forward with a steady supply of previously produced maps and effective communication. The future clearly lies in the SYGIAP system, which, via its thematic databases linked to geographical data, means that data collected in the field can be evaluated and communicated and, as such, can be used to motivate field officers in their work to survey, prevent and combat illegal activities. The challenge now is to promote these activities beyond simply World Heritage Sites and to apply them to all protected areas in the DRC.

Setting up an information system at the level of an organisation such as the ICCN means more than simply technological change. Paradoxically, technology has to be as discreet as possible to ensure that it can slot effortlessly into existing professional practices rather than becoming the focus. In fact, in such visual and high-tech areas as geomatics and remote sensing, particular care should be taken to limit any risk of technological pollution, which would distract professionals from the primary purpose of their mission and require them to become involved with a tool for the sake of technological prowess. Moreover, the technological leap involved in moving to a new information system is an excellent opportunity to make changes within an institution, enabling the latter to restructure how its information flows and how it is used. Such a move requires lengthy consideration since in practice, re-writing rules and re-assigning information roles often leads to a shift in the balance of power within an institution.

Earth-observation technologies have demonstrated that they are advanced enough to be operational. It is up to space agencies to keep the most appropriate fleet of satellites in orbit to guarantee access to high-quality observations for all users. However, it is the responsibility of remote-sensing experts to ensure that the uses of such technology remains relevant in practical situations as well as in demonstrations, since in the DRC, like elsewhere, remote sensing applications have often been put forward for institutional reasons while not always delivering the desired results. It is clear that in the context of current observation systems, the value of remote sensing is not always a question of technology but has also become one of close partnership between informed operators and remote-sensing experts who are prepared to listen.

Belgian expertise in DRC's forestry sector

• Theodore Trefon, Contemporary History Section of the Royal Museum for Central Africa, Director of the CRE-AC

Belgian experts within the scientific community together with NGOs and private-sector actors play a vital role in the management, understanding, preservation and commercial operation of forests in the Democratic Republic of Congo. Belgian individuals and institutions alike have demonstrated their willingness to cooperate with Congolese partners to meet the many challenges associated with sustainable management and use of forests.

Nevertheless, the impact of Belgian experts could be even greater still. At present, this expertise is fragmented and dispersed. Much of the expertise gained in the past has been lost or not used to its full potential. Information is not systematically exchanged and there are not enough synergies between the various players involved. Strategic thought and institutional planning are lacking. As such, Belgian decision-makers and their partners within the international community and the DRC are unable to take full advantage of this expertise in devising and implementing a wide range of actions to promote sustainable forest management. The need to identify and re-structure Belgian expertise in this specific sector falls within the scope of broader considerations by decision-makers as to the general form of Belgian expertise in central Africa. The newly established Belgian Reference Centre for Expertise on Central Africa (CRE-AC) illustrates this trend perfectly. The main purpose of CRE-AC is to centralise and disseminate information on Belgian, European, African and international expertise on central Africa. The centre's role is to support efforts to develop, update and enhance this expertise in a bid to encourage development in Central Africa. It will form an automatic interface between research institutes, universities, NGOs, the private sector and the public sector.

The text in this boxed section is an abridged version of a report with a two-pronged aim: on the one hand, to identify a representative sample of scientific institutions, NGOs and private companies active directly and indirectly in the forestry sector in the DRC and, on the other, to put forward recommendations as to the way in which Belgian expertise might be used to provide more effective assistance to both the Congolese partners and the international community in managing this invaluable natural heritage. The full report[10] is available at www.confordrc.org.

Main results

General

— Belgian experts are particularly active in the following fields: biodiversity, research into social sciences, development, land planning and mapmaking, agroforestry and collection and certification of tropical timber. In these fields, scientific institutions, NGOs, public and private sector players are all present, to varying degrees, in the forests in the DRC.

— In Belgium, a political willingness to focus on links between forest management, development and security in the DRC is emerging.

— Belgium has the potential needed to create synergies between different categories of players (for example, between NGOs and the private sector). However, examples of such synergies have been few and far between to date.

10. Trefon, T. and Caerts, J. (February 2007). Belgian Expertise in the Forests of the Democratic Republic of Congo. 33 pp.

- Belgian expertise is available in some 'marginal' disciplines and regions: for example, there is a solid understanding in Belgian expertise of the problems associated with food safety in the DRC (KU Leuven) and in community forestry planning in Cameroon. This expertise could be put to good use in ensuring sustainable management of forests in the DRC.

- Although they work for non-Belgian bodies and companies such as the World Bank, the Congolese Federation of Timber Industries (FIB), the African Parks Foundation and the ATIBT among others, many Belgians still play an important role in sustainable management of forests in the DRC.

Strong points

- Belgian experts and institutions are active within many international partnerships (CBFP, Basket Fund, action by UNESCO and so on). Despite a relative lack of leadership, Belgians are considered to provide a solid contribution to these partnerships.

- Belgium has significant expertise in the fields of mapmaking and land planning (primarily via UCL, UGent and the RMCA). This expertise has been built up thanks to funding from Belgium's Federal Science Policy (Belspo).

- Two major conferences were organised by KAOW-ARSOM:
"Tropical forests: A state of the art at the turn of the century" (2003)
"Tropical forests in a changing global context" (2004)

- Research carried out by the RMCA in the Luki Biosphere Reserve (timber science, zoology, environmental governance) is a notable example of interdisciplinary work, in partnership with the ERAIFT and the WWF).

- Today in the DRC substantial Belgian expertise is involved in tropical botanics (National Botanic Garden of Belgium, the RMCA and the ULB)

- Belgium contributes to institutional capacity-building in the forestry sector in the DRC, for example in the form of financing for the ERAIFT via Belgian funds held by UNESCO or through teaching – provided by the ULB and funded by the CUD – in tropical botanics at UNIKIS and UNIKIN.

- Belgium has long-standing expertise in park management (WWF, UCL, FSAGx, etc.). The work carried out in Virunga National Park is a shining example of this.

- Greenpeace Belgium and other NGOs lobby actively to raise awareness on the part of governments and donors about the ecology of the Congolese forests and about the situation of people living in them.

Weaknesses

- No strategic thought process – no management plan or leadership in Belgium on political action to promote forests in the DRC.
- No coherent funding strategy: action is funded in a 'patchwork' manner
- Despite efforts by Belgium's Federal Science Policy and the DGDC, many supposedly Belgian projects in the field of forests and populations in the DRC are funded by the EU, primarily via the budget line "Tropical Forests".
- There are not enough institutional links between partners in the DRC: it is not always easy to identify Congolese human resources and experts, there is a severe shortage of local capacity and the competent and committed partners are involved in many initiatives, which means that they are less able to focus on specific issues.
- Although there are some exceptions, Belgian universities are generally not involved enough in training students interested in tropical forests and their populations.
- French and British research consultancies specialising in management plans for logging concessions are active in the DRC. By contrast, Belgian companies are poorly represented.

Recommendations

- Make plans to set up a task force on Congolese forests. This task force could then set out a strategic programme of the policy priorities to be followed and assist in implementing them. The new Belgian Reference Centre for Expertise on Central Africa (CRE-AC) would be a logical partner in coordinating such a task force, which could be modelled on the task force on traceability of mineral resources, supported by the Belgian Ministry of Foreign Affairs. The FAO in Kinshasa organises regular meetings for players involved in forestry issues: these could be another model.
- Create a transparent, high-profile and user-friendly database on Belgian expertise in the tropical forestry sector: this would be extremely useful and any such database should be available on the Internet. CRE-AC could be involved in setting it up.
- Encourage more open and direct contact between them should be made a priority in order to build up a critical mass: at the moment, many Belgian institutions (DGDC, Belgium's Federal Science Policy, CUD, WWF etc.) are releasing relatively modest amounts for action in the forestry sector in the DRC.
- Factor in the environment and, where appropriate, forestry activities: as a general rule, all Belgian development cooperation actions should do this.

- Take advantage of the current willingness among policy-makers in Belgium to help the Congolese to improve sustainable management of their forests before other priorities come along.
- Continue capacity-building among Congolese partners (research, institutional support, networks, seminars).
- Support Belgian initiatives promoting the non-extractive use of forests as a priority in sustainable management (ecotourism, trust funds, carbon-credit systems and marketing the forest's image)
- Promote lobbying (in collaboration with Greenpeace, for example): the public in Belgium ought to know what kind of timber they are buying and should be aware of distribution channels and of their impact on biodiversity in the DRC and on the country's economic policy (chain of custody).
- Urge the CUD and the VLIR to encourage Belgian universities to work in the forestry sector in the DRC, in particular via the new Congo project.
- Support all Belgian organisations involved in activities to raise awareness of the Forest Code 2002.
- Encourage the Flemish Fund for Tropical Forests (VFTB) to extend its initiatives to Central Africa in general and to the DRC in particular.

Chapter 2 :
Institutional instruments and interim measures to ensure good governance in the forestry sector

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FOREST CODE: ANALYSIS OF THE LEGAL STATUS OF FORESTS AND OF MANAGEMENT BODIES

• *Garry Sakata, PhD candidate at Université catholique de Louvain (UCL), lawyer*

Summary

The author analyses the role played by both national and international players in drafting the Forest Code in the DRC. He goes on to compare the status of forests and that of land ownership and, in conclusion, discusses the right of environmental NGOs – albeit little known and infrequently used – to take legal action as enshrined in the Forest Code.

Held in Brussels in February 2007, the International Conference on the Sustainable Management of Forests in the Democratic Republic of Congo was an ideal framework within which to outline a number of previously ignored aspects of the Forest Code. Little known on account of it not having been sufficiently publicised, the present law no. 011-2002 of 29 August 2002 on the Forest Code (FC) has been the forestry sector's fundamental legal instrument since it was passed. Following along the lines of the mining and investment codes respectively and with which a comparison may be useful (Sakata, 2007), the objective announced when work first began on drafting the Forest Code was that of breathing new life into the national economy and guaranteeing usage rights for local populations. To gain a clearer understanding of the various aspects of the Forest Code, this analysis will focus on the following three main points: 1) identifying both national and international stakeholders in the drafting process as well as establishing the status of the forest and studying the various uses made of it, 2) examining the socio-economic benefits and drawbacks, and 3) the monitoring bodies authorised to issue penalties in the event of criminal forestry activity.

Institutions

Drafting framework

The Forest Code was drawn up with the financial support from the UNDP and the World Bank; it also received technical support from the FAO, in partnership with the government of the DRC. Between 1998 and 2000, several meetings were organised in Kinshasa to draw up a Forest Code as a matter of urgency. However it was not until the post-war period of 2000-2001 that a draft version, financed within the framework of the Multi-sectoral emergency programme for reconstruction and rehabilitation (PMURR), finally became available.

There have been four successive versions of the Forest Code: the first was produced in April 2002 by government experts and the FAO and contained 155 articles. The second version in June 2002 took into account and incorporated suggestions and comments made by the World Bank. This version had 161 articles. The third version was produced in July 2002 by the interim parliament's Economic and Finance Commission (*Commission économico-financière*). No fundamental changes were made in this version other than a proposal being made to the plenary session of the interim parliament that some articles be merged, reducing their number to 156. The final version of the Code was produced in August 2002 and is the version adopted by the interim parliament at its plenary session held on 14 August 2002. This final version included 68 unamended articles and a further 88 articles containing layout changes. These changes essentially entailed the reformulation and merging of articles proposed by the Economic and Finance Commission. The President of the DRC passed the Forest Code on 29 August 2002.

The Forest Code comprises 156 articles subdivided into 10 sections. Section 1 lists all the relevant keywords. Section 2 sets out the status and categories of forests. Section 3 details the various permitted usage rights. Section 4 describes the measures designed to protect forests. Section 5 introduces the concepts involved in surveying and managing forests. Section 6 lays down the framework for securing a logging concession. Section 7 details the types of logging and the rights and obligations of loggers. Section 8 deals with forestry taxation. Section 9 addresses the thorny question of the criminal system applicable to forests and Section 10 suggests mechanisms for conversion of logging titles secured under the former decree.

The main new features in comparison to the decree of 11 April 1949 are the creation of a forest register and of consultative committees, along with the establishment of a duty to provide socio-economic benefits for local

populations. Under the old decree, such benefits were considered acts of charity and goodwill on the part of loggers, who provided them merely to "keep the peace" in social terms (Trefon, 2006) with local populations so that they could quietly continue with their logging activities.

It is important to remember that the initiative by international financial institutions, including the World Bank, to draft the Forest Code is worthy of criticism as well as praise. The Code is to be welcomed for lifting the DRC out of a system of forestry management based on a legal text which had become obsolete, inapplicable and ineffective (decree of 11 April 1949) and on orders (those of 1984 and 1986) which had brought about a system of discretionary authority favouring members of central government. After several years without a coherent policy on forestry, it was time to put an end to the lack of political will on the part of the Congolese authorities, which had failed to bring the forestry sector into line with international and regional changes in forest-management approaches.

However, the main shortcoming with the initiative is that it sought to replicate a particular model (that of Cameroon) while failing to take into account the changes which had occurred and the lessons learned; as a result, some players in the field (for example the NGO Greenpeace) viewed the new Code as nothing more than a copy-and-paste exercise (Greenpeace 2007). This therefore begs the question of who the Forest Code is aimed at: private investors, national political elites or local populations?

Status of forests

There are three categories of forest: classified forests, protected forests and permanent-production forests. They are owned by the State. However, this right of forest ownership is not exclusive as it is in the case of land. Under certain conditions, the Forest Code permits local communities and those allocated a concession to own natural or planted forests located within their concessions or which they own by virtue of customary rights (Articles 7-9 and 22 of the Forest Code). In essence, a land concession is different from a logging concession in that the owner of a logging concession does not always own the land itself and vice versa.

Institutional bodies

The President of the DRC, the Forestry Minister, the parliament and the provincial governor each have their own specific remits under the Forest Code: these are, respectively, creating national parks and integral nature reserves, drafting national forestry policy, approving concessions covering an area in excess of 400,000 ha and the policy concerning the setting of early-season forest fires.

In general, the wording and tone of the Forest Code and its implementing measures, in particular the Decree of 24 October 2005, are designed to give the government a degree of regulatory authority. The role of making decision recommendations is, in theory, devolved to the administrative bodies set up for this purpose, namely the Inter-ministerial Committee on the Environment (*Commission interministérielle*), the Directorate for Forest Management and Game (*Direction de la gestion forestière*), the forest register and various specialist departments attached to the ministry, in particular the Department of Surveys and Forest Management (*Service permanent d'inventaire et aménagement des forêts*) (Toirambe, Kapa, Malele, 2006). Accordingly, for example, when granting concession contracts following conversion of logging titles, the forestry minister has circumscribed authority, i.e. he can not ratify a recommendation on which there is consensus or on which two thirds of the members of the Inter-ministerial Committee are agreed (Articles 12 and 15 of the Decree of 24 October 2005). However, it is unlikely that members of the administration will challenge orders issued by the political authorities. Is this effectively a transfer of authority?

Types of logging

Logging may be either industrial or small-scale. Concessions for industrial logging are generally obtained via a competitive tender procedure; securing a concession by mutual agreement is exceptional (Karsenty, 2006). The forestry minister is responsible for signing off on commercial logging contracts. His signature may be conditional on approval from the President of the Republic if the concession covers an area in excess of 300,000 ha or from the parliament if it covers more than 400,000 ha (Article 92 of the Forest Code).

Small-scale logging is only permitted in forests owned by local communities and subject to authorisation from the governor of the province in which the forest is located. Whether a concession is classed as being for industrial or small-scale logging depends on the type of tool used (a pit saw for small-scale logging or a mechanical chainsaw for industrial logging).

Different types of logging permits are available: a standard timber permit (*permis ordinaire de coupe*), a small-scale timber permit (*permis de coupe artisanale*), a timber, fire and distillation permit (*permis de coupe de feu et carbonisation*), a timber-harvesting permit (*permis de récolte*) and various special permits (Articles 5 and 6 of Order no. 035/2006 of 5 October 2006).

Socio-economic benefits and drawbacks

Benefits

A fiscal register detailed in Article 121 of the Forest Code sets out the various types of taxes and fees payable by loggers. These are a fee for the area allocated as a concession, felling tax, deforestation tax, reforestation tax and export taxes, which are paid as a whole either to the Treasury, the National Forestry Fund (*Fonds forestier national*) or decentralised administrative entities (DAE)[11]. The focus in this article is on fees paid to the DAE.

11. For example, sectors or local-government structures known as "Chefferies"

Article 122 of the Forest Code stipulates that 40% of the area fee should be paid to DAE and 60% to the Treasury. A 25% proportion of funds paid to the DAE goes to the province and 15% to the DAE in question; such fees are allocated solely for fundamental infrastructure of significance for the community.

The concession contract also includes specific clauses on building socio-economic infrastructure components which are of benefit to local communities, in particular building and improving roads, repairing and fitting out hospitals and schools, and facilities to be used to transport people and goods (Article 89 of the Forest Code and Article 7(F) of the Decree of 24 October 2005).

The two socio-economic obligations stipulated in Articles 122 and 89 of the Forest Code and in Article 7 of the 2005 Decree are cumulative in that loggers must comply with both. The socio-economic benefits and infrastructure components should be classed as "sustainable benefits". As such, perishable items such as salt, soap, crates of beer, sugar, clothing, packets of coffee and other "consumable" goods are not included since they are for use by individuals rather than the community as a whole.

In addition, the concept of fiscal decentralisation cited in Article 122 of the Forest Code to benefit DAE has not been adequately implemented since the Code was published. Given the logistical difficulties, in particular the lack of a banking system, problems in accessing certain regions and a lack of communication, can funds be paid directly to DAE or will they transit via the central government?

Drawbacks

The negative consequences associated with setting up industrial companies in rural areas are difficult to overcome. These include the emergence of conflicts between members of the community over control of income from logging, changes in the social context and in relationships between members of the community, and undermining of the ancestral and traditional role played by forests (Trefon, 2006).

Settling disputes concerning forestry matters

Various monitoring bodies can be called upon in cases where loggers or forest-users fail to fulfil their obligations.

Monitoring bodies

Forestry inspectors, sworn civil servants and other judicial police officers have the authority to investigate criminal forestry activity. They must first have taken an oath before the Public Prosecutor. They submit reports to the

Public Prosecutor's office, which, in consultation with officers, reserves the right to instigate legal proceedings. The reports detail the nature, location and circumstances of the stated offences.

Depending on the level of the fine stipulated by law, forestry inspectors, the director of forestry management or the forestry minister may make a settlement offer to conclude legal proceedings (Ministerial Decree no. 260/2002 of 3 October 2002). Legal proceedings will only be deemed to have been concluded via a settlement if said settlement has been approved by the Public Prosecutor's office once the latter has received notification confirming that the required amounts have been paid.

- The Public Prosecutor's office retains its traditional authority to prosecute offences, in consultation with the aforementioned forestry inspectors and officers

- Environmental NGOs and associations representing local communities have specific prerogatives not enjoyed by NGOs in other fields. Under the Forest Code, they may be a civil party to the action instigated by the Public Prosecutor's office to request compensation for damage caused to the forest or to the environment. On the same grounds, they may therefore make a direct request to a court for a ruling in cases where the Public Prosecutor's office fails to instigate proceedings. This right is subject to several conditions: firstly, the NGO in question must be one of Congolese nationality and must be approved; it must also have been recognised as contributing to environmental protection. This condition would seem to be subjective insofar as its assessment depends on the judicial authority issuing the ruling and should take into account the actual activities pursued by said NGO. An NGO is deemed to have fulfilled the first two conditions if it is included on the list published each year by the minister for the environment in accordance with Article 32 of the Forest Code. Finally, the damage suffered must be linked directly or indirectly to the collective interests the NGO seeks to defend. Direct damage might be, for example, an NGO active in protecting forests being a civil party in a case concerning illegal clearing of forested areas. Damage suffered would be classed as indirect where, for example, an NGO involved in protecting a rare species of monkey believes that ongoing logging activities are destroying the habitats of the species it is seeking to protect. By the same token, legal action by local residents to protect a watercourse would be admissible if such action pertained to the destruction of forests adjacent to said watercourse. It is important to note that this legal provision applies not only to the forestry sector but also to environmental activities in general.

Penalties

Illegal clearing, counterfeit production of marking hammers[12] and hindering the work of forestry inspectors and officials are some of the activities prohibited and punishable by prison terms of between two months and five years and payment of a fine ranging from CDF 5,000 to CDF 1,000,000.

Persons found guilty may be required to restore illegally cleared forests. This compensatory penalty entails replanting the area as it initially was with the same vegetation and over the same surface area (Article 52 of the Forest Code). However, it is important to bear in mind that populations and NGOs have not yet fully adjusted to being able to refer breaches of environmental rules and forest laws to the courts. As such, no penalties have been imposed to date.

In conclusion, there is not enough awareness of the Forest Code either on the part of the forestry officials responsible for implementing it or the populations actually living in forests. As highlighted at the Brussels International Conference, the lack of qualified human resources continues to be a problem. Efforts are needed to inform, educate and train people as well as to publicise the Forest Code. In fact, almost five years after it was published, the Forest Code remains more of a legal reality than a sociological one.

12. The marking hammer is a tool used by accredited forestry workers to mark trees to be felled and logs. It is a legal instrument and its stamp is registered with the Ministry of Justice. It can also be used to determine the origin of timber. Since it is protected by law, counterfeit versions of the tool may not be produced.

Priority agenda

• Theodore Trefon, Contemporary History Section of the Royal Museum for Central Africa, Director of the CRE-AC

The priority reform agenda was introduced in 2002 during a period in which forestry institutions were in dire straits: before and during the conflict, most forests had been used for industrial logging for largely speculative purposes. There had been no transparent process, no local consultation, no proportional benefit either for local people or for the economy of the country as a whole, and no consideration for alternative forest use. Concessions surrounded villages, agricultural land and ecosystems which were critical to maintaining biodiversity. Furthermore, no provision was made for involving local people in forestry-management projects. In the absence of any radical change, this situation was clearly set to lead to further social, economic and environmental losses.

In this context, the government put in place a raft of simple, remedial, preventive and foundation measures in the form of a priority agenda. It included, among other things, termination of invalid logging contracts, introduction of a moratorium and the adoption of a new Forest Code. Brought in as the war was drawing to a close, in a country without roads or institutions, this priority agenda is selective and pragmatic. It targets problems which, despite not yet having been permanently resolved, were risking irreparable damage to the environment and communities alike and preventing the DRC from deriving any benefit from its own resources. The agenda focuses on the application of laws and agreements and on transparency as a means of halting corruption and stimulating public debate as well as on the obligation to submit accounts. These measures also require political will as well as financial resources and technical capacity. They are designed to prevent ill-informed decisions taken today standing in the way of achieving a broader vision of the future. Once these measures have been put in place, it will then be possible to embark on the path to a more long-term vision.

SUSTAINABLE DEVELOPMENT OF PRODUCTION FORESTS IN THE DRC: PROGRESS AND PROSPECTS

- *Bernard Cassagne, Forêt Ressources Management (FRM)*
- *Robert Nasi, Center for International Forestry Research (CIFOR) and the French Agricultural Research Centre for International Development (CIRAD)*

Summary

Along with protected areas, sustainable management of production forests can play a key role in conserving resources and combating poverty in the DRC. The specific features of the DRC's forests (very low loggable volume) and the poor quality of infrastructure and lack of human resources require a gradual reintroduction of commercial activity, which could be organised around two or three geographical focal sectors containing several sustainably managed logging concessions. However, such a move is only possible if a solid framework is in place to provide good governance, if concessions are allocated in a transparent manner and if activities are closely monitored.

The Democratic Republic of Congo is emerging from a long period of war and decay. Its 60 million inhabitants are among some of the poorest on the planet and the majority of them depend on the forests and its resources for their survival. Institutions have become weakened, the peace is a fragile one and the problems affecting all areas of social and economic life are acute. Such a climate creates – both for the forest itself and the populations dependent upon it – significant opportunities and risks. Logging can no longer ensure its economic sustainability: productivity is low, large amounts of timber are being lost, skills are poor and companies are still hesitant to invest in sustainability in the long term. The question in the DRC today is not whether but rather how the giant will wake. The political aim is for forestry activities to be based on a stakeholder land-use planning process that is economically viable and focuses on the role and interests of the populations involved while at the same time preserving the environment. As such, a framework within which to relaunch the timber industry is desperately needed but any such framework must ensure that the negative effects of the industry can be prevented and instead benefits created for populations and the national economy alike. Safeguarding environmental sustainability must also be a key consideration. Promoting sustainable forest management will be a crucial contributory factor in whether or not this relaunch is a success.

Management of tropical forests to produce timber

The purpose of forest management is to gain an in-depth knowledge of a forested area – diversity of flora and fauna, vegetation structure, human usage and activities and so forth – in order to plan logging in such a way that it is compatible with the forest's own natural capacity for regeneration and replenishment as well as with the needs of the relevant populations.

Once socio-economic and organic surveys and diagnoses have been carried out, the areas occupied by current and future human populations are removed and protection areas identified (zoning). Logging plans are designed to generate regular income and are based on a rotating cycle during which specific zones within the managed area will be logged in turn. Once logging in a particular zone is complete, that zone will be left to regenerate for approximately 30 years.

The management plan specifies this schedule and sets out the sustainable-production potential and rotation details as well as the social and environmental measures to be taken alongside forest production activities. These are firm commitments which the economic operator will be required to follow. Various measures are also laid down to assess the impact of the provisions over time and thereby to ensure that development is as sustainable as possible.

Each year, once the management plan has been approved, logging is limited to strictly designated geographical areas; a full survey is conducted and social mapping carried out. An annual management file is also compiled. The principles of reduced-impact logging are applied and social mapping is used to preserve certain specific areas (ancient villages, sacred places, etc.), certain trees and other points of social interest to populations.

Any company involved in this field now needs to be aware of more than merely issues relating to forestry production; a new form of social and environmental responsibility is required by all such businesses in all departments and among staff in the field and managers alike. A system whereby companies contribute to local development

is fully incorporated into their current activities along with a system for reducing the environmental impact of forestry activities on the natural surroundings.

Sustainable management is giving companies a fresh industrial vision. A resource is seen as a valuable commodity which it is now difficult to obtain. There is much greater awareness as regards forestry capital and a vision is emerging of how to derive the greatest benefit from a widely used resource. Against this backdrop, the question quickly arises of promoting new species which are available but which have been hitherto little- or unknown. Seeking to derive greater sustainable benefit from available capital (rotating logging over a 30-year cycle) must be compatible with natural forest regeneration. Extensive industrial processing of this particular resource is an economic imperative as well as a social challenge in terms of jobs and the higher levels of tax revenue it generates. However, market rules are never simple and some forestry products are marketed as raw materials; this trend is decreasing though.

This kind of progress is sanctioned nowadays under the certification scheme for sustainable forest management (according to FSC standards, for example). The decision as to whether or not to go down the certification route is one for individual companies but is strongly influenced by the market. Most companies in the Congo Basin that have been involved in the management process for several years have opted to obtain certification.

Involvement in forest management also requires the company to be relatively large and to have the capacity to free up the substantial funding required (the cost of drawing up a management plan is between 3 € and 5 € per hectare). It must also be in a position to ensure that sustainable-management processes are implemented correctly. The quality of the management depends largely on a company's professionalism and commitment. Audits and checks by certification bodies and monitoring by the authorities can be a burden on companies in this regard.

Another significant problem is that of managing small areas of forest generally administered by small economic operators which have neither the technical or financial resources nor the long-term vision required to commit to managing logging activities in a sustainable manner. Resources will need to be found to train and educate these players in the years ahead.

Although there have been significant developments on the technical and scientific sides of forestry management, just as much work – if not more – is required to gain a clear sense of the level of commitment as regards social action and protecting and valuing the biodiversity of sustainably managed forests. Companies alone cannot guarantee adequate and harmonious development on a local level. Government departments need more staff and a greater financing capacity. The progress made in sustainable management and which is vital if techniques are to be developed and methods enhanced using information and experience gleaned in the field must continue – and players in the forestry sector must encourage this.

Characteristics of production forests in the DRC

The study conducted by the World Bank in 2003 within the context of the Forest Sector Economic Review identified low production potential per hectare and a limited number of species logged. The surface area covered by dense humid forest and forming large forested areas is estimated to be almost 86 million ha out of a the roughly 148 million ha covered by the huge Congo Basin forest. Between 1992 and 1995, the six main species logged (in descending order: sapelli, tola, sipo, iroko, mahogany and afromosia) accounted for almost 75% of the total logging. The study highlighted several unique regional features in terms of forestry products: in the Bandundu region, for example, there was a high level of tola and wengé (accounting for 50% of the production) while in the most northerly regions in the Basin –Equateur and Orientale provinces – the main products were sapelli, mahogany, tiama, tola, iroko and afromosia.

Between 1994 and 2002, the average logged volume is estimated to be 3.1m^3/ha; this figure is driven up by the estimated average volume of 4.4m^3/ha in the Lower Congo province. The general range in the Basin is between 2.0 and 4.0 m^3/ha, which is very low. Management surveys begun during the first quarter of 2005 and completed in seven concessions[13] confirm the low volume.

The species known to be of value (and produced on a regular basis where market conditions allow in other countries of the Congo Basin) are, relatively speaking, not that prevalent overall (averaging between 1 and 3 m^3/ha). By contrast, several species which are not that prevalent in neighbouring forested countries, not currently marketed on a large scale and little-known in terms of technical timber quality, are extremely prevalent in the Congo Basin. Such species would seem to offer production potential of between 3 and 8 m^3/ha. However, tests should

13. Two in the Equateur province over an area of 291,600 ha, three in the Orientale province over an area of 640,100 ha and three in the Bandundu province over an area of 402,900 ha; work carried out with technical assistance from Forêt Ressources Management (FRM).

be carried out on the timber material to establish potential uses, identify markets and promote the product. This takes time (it will be years before such additional potential could be generated) and requires substantial investment to derive benefit from these new species.
Logging per ha will therefore remain at a low level for many years – with the exception of concessions closest to Kinshasa where logging is designed to supply the local market. Relatively large areas will need to be logged each year to reach an adequate level of production and the economic balance vital for the activity to be sustainable.

The table below compares current logging per ha and trends in managed production within managed concessions in different countries of the Congo Basin. It shows the low level of production in the DRC. In addition to this low level of production, there are also constraints linked to excessive transportation costs, the time taken to transport timber products from forest to factory, the substantial levels of cash flow needed by logging companies and the inherent constraints associated with a country undergoing reconstruction.

Current average logging and forecasts for managed production in the Congo Basin

Country	Current removal (m^3/ha)	Forecast managed production	
		m^3/ha	m^3/ha/yr
Gabon	6 - 15	15 - 25	0.6 - 1
Republic of Congo (Northern Congo)	7 - 10	10 - 15	0.3 - 0.5
Cameroon	5 - 12	10 - 20	0.3 - 0.7
DRC	2 - 4	5 - 10	0.2 - 0.4

Consequences for management in the DRC

Management of logging concessions in the DRC will be extensive. Based on a forested area of 100,000 ha, both stratification of over 10 million ha[14] and the initial findings from management surveys[15] show that the average useful surface area for production is close to 60%. Excluding areas allocated for other uses (marshy areas – average of 25% – and anthropised areas used primarily for farming – 12%), the average productive area is 60,000 ha, which, if rotated over 30 years, will cover approximately 2,000 ha a year. Based on logging of 3-4 m^3/ha, the annual volume of logs produced would be between 6,000 and 8,000 m^3, which is very little and nowhere near enough to ensure the economic viability of a high-performance industrial logging company also addressing the challenges of sustainable development. Experience in the Congo Basin has shown that the minimum threshold required for a logging company to remain economically viable is a volume of between 40,000 and 60,000 m^3 of logs per year. In addition, to spark the interest of major investors, the large groups of tropical-timber producers involved in sustainable management, a minimum volume of between 80,000 and 100,000 m^3 is required.

Without predicting the outcome of the process currently under way to convert logging titles, a hypothetical figure of 15 million ha of logging concessions would generate approximately 9 million productive ha and, based on rotation over a period of 30 years with 3-4 m^3 logged per ha, the maximum level of average annual production would be close to 1 million m^3.
In the future, to increase average logging per ha within concessions, the way in which the concessions are marked out needs to be reviewed (raise the current average ratio of 60% of useful productive surface area for economic activity) and the average logging level raised (this would ensure a better position on the markets, a higher level of commercialisation and transition to sustainable forestry management).

In the DRC, more than anywhere else in the Congo Basin, splitting a concession up into several management areas will essentially entail 'zoning' the managed land. Under Congolese law, farming land may not be included in a concession; this means that the original concession boundaries need to be re-drawn to avoid having a large area of the concession occupied by agricultural land and all the complications that this would entail. Land set aside for agricultural development is also removed from managed areas of forest. This zoning work is carried out as management work on logging concessions progresses. The purpose of this management exercise is also

14. Mapmaking work by FRM in 2004 and 2005 on a total of 47 logging concessions covering an area of 10 million ha.
15. Field work supervised by FRM completed in seven concessions – 1.2 million ha – and under way in seven other concessions – 1.5 million ha; management surveys planned on a further 5.9 million ha over the next four years making a total of 8.6 million ha surveyed. These management surveys are carried out according to the standards generally used in the Congo Basin and currently adopted in the DRC.

to split the land up and take decisions about how it is to be used on the basis of reliable and well-thought-out technical and scientific information. Once the management plan has been adopted, a forest register listing all managed concessions must be drawn up in accordance with new forestry legislation, which requires that both a central register and provincial registers be kept. Management must be centralised and all parties made aware of it. Every effort must be made to safeguard this register, particularly in light of the risk of agricultural clearing.

The weakness of the country's infrastructure and of the available methods of river and road transportation as well as the bottleneck in the port of Matadi will automatically restrict the DRC's production levels for quite some time. Intensive industrialisation is therefore becoming necessary for other reasons in addition to those traditionally proffered of job creation and exporting products with a higher added value. Based on a volume of 1 million m^3 of logs, production of sawn timber for export is between 250,000 and 300,000 m^3, which reduces transportation constraints significantly.

Within the country, many demands are placed on the private sector by decentralised administrations and local populations. At the same time, it is having its activities substantially restructured: learning to operate under the sustainable-management system is difficult and costly. A great deal of progress is required and many commitments have to be met within a very short timeframe. It is therefore important to draw up a plan of action, not to demand too much too soon and to rebuild a sense of trust between the government, the private sector and local populations.

Logging in the DRC is highly dependant on the sale of a limited number of species; the market in these could collapse if they are produced in excess. This is particularly true of wengé, produced in Bandundu, and mahogany, tola and afromosia produced in the Equateur province and the Orientale province. It is therefore important to restrict production and space it out over time. Given the government's limited resources for managing forestry activities, it would be a good idea to gradually increase its powers in this field. In addition, having to pay an annual area tax could force some players to continue producing under poor conditions.

Some forested areas are still very remote, very difficult to access or are only accessible for a few months a year; in some cases the infrastructure or transportation equipment required is extremely costly. In the short term, there is no justification for opening them up for logging. Some sectors of the forest are subject to extreme human pressure and are required for farming in the medium term. Rural forestry activity could be a solution in such cases to ensure a minimum level of forest cover. Finally, areas of ecological interest which have been identified for conservation must be preserved pending a decision as to whether they are to be set aside for conservation or sustainable management.

Care should also be taken to focus development in sectors containing large areas of useful forest. Such an approach will make the gradual introduction of decentralised administration much easier, will ensure that international aid to support development of the forestry sector is channelled to where it is needed, and will help to coordinate requirements in terms of investment in infrastructure. It will also help to focus thinking on industrial development and timber processing. Several focal sectors are required to take account of forest diversity, logistical issues, access to forestry resources and socio-political contexts.

The DRC cannot wait for the outcome of a broad-scale "national forest zoning plan". Such an exercise would take years (even a decade) and the country is in desperate need of development. Within the country, the people are fighting poverty and are still waiting for projects to generate economic activity which would provide jobs, income and other sustainable economic benefits. Gradual zoning in stages would seem to be more appropriate and would provide an almost immediate response. The first stage would be to designate two or three sectors within which to focus development of forestry activities (Forestry Development Focal Sectors, FDFS) to which access is easy and on which human pressure is low. Such a focal sector could cover an area of 4-6 million ha. In terms of regional development policy, provision could be made, for example, for three sectors in the Bandundu province, the Equateur province and the Orientale province. The area of these sectors could vary from province to province depending on the forested area considered economically useful.

The second stage would entail marking out a network of logging concessions within these focal sectors. The first job would be to zone the concession and then to compile the forest register. Areas need to be set aside for use by people (for farming and forest use, for conservation if survey findings indicate that certain sectors need to be protected, etc.). The conditions under which economic forestry activity is to contribute to local development will be laid down and a framework put in place to enable the forestry and other relevant authorities to manage economic forestry development (new tasks for the authorities, requirements in terms of personnel and resources, identifying an international assistance project, etc.).

These initial concessions within the FDFS will be very closely monitored and responsibilities allocated in a transparent manner. Particular emphasis will be placed on involving professionals in social programmes and protection of natural resources within the concessions awarded.

At the same time, there will also be discussion on a more general level as to acknowledging the value of and preserving Congolese forests as a whole: where might there be other concessions in the future? How can timber be produced for regional and local requirements? Where can this be produced and what kind of management and assistance is required? This exercise should also consolidate the protected-areas programme and designate areas reserved for local people only. The contribution made by Congo's forests to the problem of carbon sequestration could also be defined as part of this exercise.

Provision should be made to monitor sustainable management and to this end forestry administration should be shored up; the support of an independent observer will also be required, at least during national capacity-building. This vital monitoring work will not be able to last throughout the lifetime of the project if the availability of external funding is restricted to a specific period. The donors funding these observers will need to bear this in mind. Another solution might be to privatise the exercise completely.

INDUSTRIAL LOGGING IN CONGO: IS A STAKEHOLDER APPROACH POSSIBLE?

- *Theodore Trefon, Contemporary History Section of the Royal Museum for Central Africa, Director of the CRE-AC*

The new context for the Congolese forestry sector

The elections held in the Democratic Republic of Congo in 2006 were a major technical, logistical and political feat. Backed-up by substantial support from the international community, the Congolese authorities managed to inspire more voters than they had hoped to take an interest and to actually come out and vote. With the elections over, the task of preventing a recurrence of past conflicts is just as tough a challenge in view of the high expectations of the Congolese people as regards security, development and improved living conditions. Ordinary citizens in the DRC are expecting their country to assist them: the newly elected president and his government are already under pressure to meet these expectations quickly. Unless sufficient social and economic progress is made, the political situation could become volatile.

The international community is also closely involved in the DRC's economic revival, the role of the World Bank in drafting and promulgating mining and forestry codes[16] being one example. The World Bank – and other players such as the European Union, the United States and Belgium – is a staunch supporter of the idea that the country's stability will depend on more effective management of its natural resources. There is a growing consensus that this wealth could help to breathe new life into the formal economy; it could be the cornerstone of reconstruction provided that major economic changes are made and that there is more transparency and a greater sense of responsibility as regards management.

Accordingly, the World Bank advocates the idea that the DRC should re-launch its industrial forestry sector in a responsible manner. In this context, "responsible" should be taken to mean ensuring that the rights of citizens and indigenous peoples are protected, that the environment is respected and that profits are re-distributed fairly. Non-extractive use of forestry resources such as trust funds, ecotourism, carbon credits and even marketing the forest's image all form part of the World Bank's approach. The latter believes that in the future, the forestry sector will be the fastest-growing in the DRC; this forecast is based on the sector's economic potential and its capacity for monitoring and formal management.

Nevertheless, some of the World Bank's actions in the DRC have been criticised. Firstly, the move is an example of an international organisation supplanting the Congolese State in taking strategic decisions which are traditionally the preserve of sovereign States. International experts hold key positions as advisors in some ministries, a scenario which may be viewed as a weak point in the process of reform. This also poses ethical questions since local populations will, undoubtedly, be undermined by the forestry industry. Although it is highly unlikely that they will be refused access to harvesting and production areas, there is certainly the possibility that they will see vital forest resources depleted as loggers impact on social relations and alter the ecological balance of lands these people consider ancestral. The strategies put forward by the World Bank lack any basic knowledge as to the size of the country and the logistical problems which will make implementing them difficult. Although sensitive to issues concerning the rights of indigenous peoples, the World Bank has not escaped criticism from the latter. It continues to support the process of converting logging titles but has, for the time being, taken a step back from the process of zoning. Logically, zoning should have been completed before investigating applications for conversion of titles. This myriad of problems accentuates the perception that the Congolese people are being controlled by an international community which is imposing reforms on them without any real understanding of their country.

Given the complex context in which many of the stakeholders are competing to secure resources, we believe that this article should focus on the challenges facing the local communities living in and around logging concessions. These economic areas which are facing greater challenges are also social areas characterised by conflict and an ambiguous institutional framework. The debate rests on the supposition that a positive change in the forestry sector will require more than a new government and new legislation or even putting in place new policies. Funds from international donors can help to resolve some immediate problems but they will not change deeply rooted

16. Law no. 011/2002 of 29 August, commonly referred to as the Forest Code

ideologies and practices. A three-pronged modus vivendi agreed between populations, the private sector and the State is an absolute prerequisite for regenerating the formal economy in general and the forestry sector in particular.

The Forest Code and stakeholder management

The 2002 Forest Code stipulated public consultation and consideration of environmental factors in the process of allocating logging concessions. In theory, this is significant progress in relation to previous legislation and practices given that before the 2002 law, the sector was governed by a colonial decree dating from 1949. There was a desperate need to modernise legislation on account of non-sustainable forestry-management practices. As a result, an Independent Observatory (IO) was set up in 2005 to provide technical support in converting logging titles into new concession contracts[17]. The IO was given the task of identifying titles awarded illegally following the report by the UN on illegal use of natural resources in the DRC, of identifying those in respect of which no area or logging taxes had been paid, and of ensuring that all stakeholders are involved in the conversion process.

17. For further information on the Independent Observatory: www.rdc-conversiontitresforestiers.org/en. For a more detailed analysis of the conversion process, see "A review of the project of technical support for the conversions of the supply guarantees and the letters of intent into forestry concession contracts in the Democratic Republic of Congo", Resource Extraction Monitoring, London, 2004, at: www.rem.org.uk

Among the major challenges facing the IO is the need to take account of the competing demands of operators and indigenous communities and to involve groups such as the Batswa pygmies, who have little or no voice on the subject when it comes to decision-making. The real purpose of the IO – which has succeeded in creating an impressive organisational framework and has been very active – is unclear. It will assess applications for conversion of titles into concession contracts on the basis of technical, legal and social criteria. Despite benefiting from an international profile and credibility, the IO only issues recommendations – and there is no obligation for these recommendations to be implemented. Although the IO scrupulously ensures that high standards are observed as regards compliance with procedures and transparency, the decision to grant concessions will ultimately be made by a Congolese inter-ministerial committee, the latter comprising members from various ministries, civil society, local communities and the private sector. This diversity could potentially limit the risk of corruption but, given the challenges, this is unlikely.

Despite the new legal and regulatory framework concerning logging in the DRC providing opportunities to improve the wellbeing of local populations in a spirit of sustainable development, there are still major challenges to be overcome. The mechanisms for administrative logistical and institutional control are far from adequate. This will not prevent loggers from engaging in the corrupt practices used in the sector in the past. It is public knowledge that in the past the political elite and loggers shared profits without a thought for either populations or the environment and this situation is continuing to be a source of serious conflict between the stakeholders. The same applies to economic policy in the DRC as a whole and in other timber-producing countries in the Congo Basin. If the situation is to improve, it will be crucial to comply with four principles in particular – and there are already political signs that things are moving in the right direction. The four principles are: a clear distinction must be made between the responsibilities of the State and those of private logging companies and these boundaries observed; loggers must agree to play a social role to support development of local populations; both the State and loggers must, in partnership with local populations, help to improve the wellbeing of said populations in the form of direct and indirect benefits associated with logging; and a stakeholder approach must be used that is transparent and clearly understood by all parties involved.

A two-pronged social overview

If we really want to ensure that all players agree to implement these principles, then efforts will be needed to raise awareness, improve communication and build-up the capabilities of coalitions and civil society alike. The process under way in the DRC today could follow along the lines of other countries in the Congo Basin, in particular Cameroon, where efforts have been under way for over a decade to improve the partnerships between loggers and forest dwellers. The drafting of forestry management plans, which is also extremely costly, and compliance with international codes of conduct are signs of real progress in terms of respecting the rights of local populations, the environment and conditions in workers' camps. Nevertheless, the overall view remains disastrous.

A campaign to raise awareness of rights and responsibilities as well as involving players from civil society more closely in activities would be a first step. For this, basic education needs to be improved – without it, any involvement in the development process will be impossible. Reviving the private sector is an absolute must if we are to get the Congolese economy back on track. The fact that this process is a long-term one should not give the private sector the right to use natural resources without allowing ordinary citizens to benefit from them as well. However, people living in forest concessions should be realistic about socio-economic investments.

As a general rule, the needs of these communities in terms of socio-economic investments are very basic but the communities themselves are often unable to agree as stakeholders on the priorities to be put to planners working with loggers. In the past, the Congolese State has shown itself to be quite incapable and relatively uninterested in the idea of mediating between forest populations and logging companies. Involving players from civil society more closely and the active support of the international community could help to consolidate the process of change, despite the fact that, once again, it will take many years to bring about a deep-rooted change in political practices. Another underlying precondition is the need to root any stakeholder approach in the way local communities think and operate. It is therefore important to take into account a myriad of splits, tensions, suspicions and fragmentation between the sexes and between generations – all of which are features of forest communities.

The 2002 Forest Code sets out the usage rights of local populations and lays down the social responsibilities of concession owners (Article 89). One of the main benefits of the Code is its attempt to bridge the gap between the theoretical power of the State and the reality of customary law (Article 36). This is an outstanding progress since traditional claims have now been recognised and institutionalised. Within the concessions, local populations now have the right to hunt, fish and harvest non-timber forest products (Article 44).

Until 2002, the State claimed sole ownership of land and its resources; the law of 1949 made official the fact that indigenous peoples had no rights or claims in this respect. Although loggers previously built schools, hospitals, corporate stores and leisure centres equipped with satellite television and undertook other initiatives, they did so to ensure a minimum level of social peace. They were in no way duty-bound to do so. Such initiatives were borne out of lobbying by indigenous peoples' associations and ecological NGOs and they resulted in the acknowledgement in the 2002 law of the importance of working with local populations.

However, in practice, forestry industries balk at investing in social infrastructure since, to their mind, the taxes they pay to central government should be used to fund such investment. Moreover, they maintain that the government should fulfil its obligations. In response to this reticence, Article 7(d) of Presidential Decree No. 116 of 24 October 2005[18] requires loggers to make tangible proposals in their management plans to guarantee rights and usage for local populations. In the spirit of stakeholder management (provision is made for consultative committees in Article 29 of the Forest Code), such proposals must be based on the signed minutes of meetings between loggers and representatives of local communities. Article 7(f) stipulates the same requirements as regards the impact of logging on the environment (threats to wildlife, for example) and on the wellbeing of communities.

Despite these requirements, the practicalities of land rights are still a little ambiguous. Although urgent, the issue of land reform has not yet been seriously addressed. The battle for power, access to resources and legitimacy between the traditional authorities and government agencies often takes the form of squabbles over land and bargaining in and around logging concessions. Negotiations are never-ending. Other players from within civil society, such as church representatives, NGO workers and international development experts have also become a constant feature. However, these players are not always the most influential. Relationships between all players are ones of conflict and appear devoid of any logical framework, despite a fragile *modus vivendi*.

According to the government of the DRC, land and subsoil belong to the State. The Bakajika Law of 1966 authorised the State to claim full sovereignty in land matters, including the granting of mining, logging and farming concessions. By contrast, though, local populations see themselves as being the rightful owners of land on the basis of ancestral rights: they claim to be guardians of the land, thereby establishing the cosmic link between

18. Decree No. 05/116 of 24 October 2005 on the process of converting logging titles into concession contracts.

their ancestors and future generations. In their eyes, the Bakajika Law is no more than a myth, has no legitimacy, and has been concocted by Kinshasa for political purposes.

This hybrid system, exacerbated as it is by unclear procedures and ambiguous application of the latter, is a source of potential conflict within concessions. There are no accepted rules in these areas since against the backdrop of a collapsing State and economic crisis, anyone who has even the smallest degree of power or authority will use it to maximise his or her own personal profit. The recent consideration of the claims and concerns of forest communities is a positive sign but a real willingness and capability on the part of governments to apply the law remains fragile.

Decentralisation and local socio-political organisation

The new constitution ratified in December 2005 stipulates decentralisation of the State. The new institutional framework requires 60% of income to be allocated to central government and 40% to the 26 provinces. In return, the provinces must pay back 15% to the decentralised entities – or 'sectors' – from which the income is received. In practical terms, this means that if a logging company pays USD 100,000 in tax to Kinshasa, USD 15,000 will be paid back to the sector in which the timber is harvested.

Large-scale problems remain: the DRC has virtually no banking system and its ministries are only now starting to be fitted out with computer equipment. In rural areas, governors rarely have access to a vehicle in which to move around within their district. In addition, the question remains as to who precisely within the community should receive the 15% share, how it should be paid and what its actual purpose is. There is no consensus at village level as to how these new sources of revenue should be distributed or invested. The problem is particularly acute in communities living primarily outside any monetary economy since many forms of exclusion are endemic in power structures in rural areas of the DRC.

Male Bantu elders have the authority and it is they alone who decide how a community should preserve its past heritage and plan its future. Women have no say in this respect. Neither do the pygmies. However, in forested areas of the DRC, there are many pygmy communities and these are commonly viewed as 'primitive'. Although there may have been improvement in terms of discussions, this has no practical impact on the lives of women or indigenous peoples.

The numerous examples of conflicts within communities is due to the fact that members of such communities cannot always agree on how best to manage the presence of loggers in the region. The question of socio-economic investment, which should, on the face of it, be a positive step, is a source of conflict when it comes to deciding how investment should be used and on the type of investment initiative: some want a school, others a bridge and yet others a well. Forestry companies help to reinforce this type of exclusion since their discussion partners are male Bantu elders by whom decisions are taken without any involvement on the part of the relevant stakeholders.

Civil society

In the early 1990s, the number of civil society organisations, local and international NGOs and community solidarity networks in the DRC skyrocketed. Despite the plethora of affiliates, Congolese civil society – which was apparently dynamic – was not a civil society in the true sense (i.e. one in which citizens could stake a claim to their rights) but rather was one in which, more often than not, customers were endeavouring to derive a profit from some arbitrary negotiation process or another. Neither is Congolese civil society an homogenous entity; on the contrary, it is divided by conflicting interests and its members are in opposition with each other. Civil society is also being held prisoner by the poor social, political and economic situation.

Application of the Forest Code is severely hampered by the weakness of Congolese civil society. However, the World Bank is incorporating this into its action plan for enhanced mediation. International experts believed that

civil society would be able to act as a mediator. As a concept, this is a step in the right direction but it does not necessarily reflect the actual situation in the field. In reality, there is virtually no such thing as civil society in forested areas. Steps are urgently needed to shore up civil society in the long term if we want it to play a decisive role in the future.

A bleak future for the forests and their inhabitants?

Although populations are an integral part of the ecosystems of tropical forests and must be consulted on, informed of and involved in drawing up national priority policies such as the granting of concessions, the mechanisms currently in place in the DRC are still woefully inadequate. Involvement continually hits obstacles such as the complex nature of traditional powers, institutionalised inequality and deep-rooted corruption in the forestry sector.

Although the reasoning of donors that the forestry sector should be used as a basis for reviving the economy is certainly accurate in macroeconomic terms, there is no escaping the negative impact of such an approach on local communities living in and around logging concessions. Their access to vital resources will diminish as forests are systematically logged. The stakeholder approach – favoured by some donors and NGOs – is only of limited use in the harsh world of the forestry industry. Moreover, the fiscal income that communities should derive is more of a myth than a reality. Such communities lack trustworthy mediators and their experience of stakeholder strategies has been proven to be inadequate.

So can new policies on socially and ecologically sustainable management produce results? There is little to suggest that they can. Sustainable forestry is not a technological challenge, but rather a political, social and cultural one. Could the Congolese authorities responsible for forestry management apply the appropriate policies at local level to enable the country as a whole to benefit from the income generated by logging? Once again, the evidence would suggest not.

Chapter 3:
Economic instruments for non-extractive use of forests

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EMPOWERING DEVELOPMENT

OVERVIEW OF POSSIBLE FINANCE MECHANISMS FOR ALTERNATIVE FOREST-USE MODELS

- *Alain Karsenty, Economist, French Agricultural Research Centre for International Development (CIRAD)*

Summary

The financing instruments and mechanisms available for alternative forest-use models and to encourage better forestry management practices within logging concessions can be divided into four categories. Bilateral mechanisms (debt-for-nature swaps, payments for environmental services, conservation concessions) are all restricted in that they are dependent upon funds made available on a voluntary basis by States, foundations and groups of conservation investors with a view to applying them to conservation and sustainable forest-management projects. Multilateral instruments, in particular those reliant upon market mechanisms such as the Clean Development Mechanism (CDM), in theory have greater potential for being able to generate funds. However, use of the CDM in the forestry sector is hampered by several internal regulations governing the mechanism itself, the low current value of credits and uncertainties surrounding land-ownership rights in several African countries, in particular in the DRC. Other multilateral mechanisms such as those pertaining to "avoided deforestation" are currently under discussion but there is no guarantee that they will be adopted and only a very favourable outcome to negotiations within the bodies of the Climate Convention will give the DRC any prospect of benefiting from them. Whatever happens, without any rapid and broad-scale improvement in the way the DRC's institutions operate, the prospects afforded by these various mechanisms and instruments will be academic, regardless of the numerous needs and purposes – both global and local – served by natural areas.

To finance alternative forest-use models and to encourage improved management of such models within logging concessions, a range of financial instruments are either available or can be put in place in the short to medium term. These can be divided into four categories:

- debt-workout mechanisms;
- existing instruments linked to the Kyoto Protocol;
- potential instruments associated with possible future decisions in the context of the United Nations Framework Convention on Climate Change (UNFCCC);
- voluntary action supported by private funding.

Hybrid instruments could be used to complement these mechanisms (see boxed text on page 50).

Debt-workout mechanisms

To date, debt-for-nature swaps have enabled several States to introduce conservation projects, finance monitoring systems, improve techniques, implement activities put forward by local NGOs and so forth. This same mechanism is now starting to be used in the context of Debt Cancellation and Development Contracts (C2D) for heavily indebted poor countries (HIPC); France concluded an initial such agreement with Cameroon in 2006 (Besacier & Koulagna Koutou, 2007). Under these agreements, action can also be taken in respect of environmental goods. Despite its ongoing use in a country being limited by the specific features of the debt itself and the fact that it is a finite mechanism, this instrument is an extremely valuable one since it could quite easily be adapted for use as the initial capital for a Foundation designed to manage protected areas.

Existing instruments linked to the Kyoto Protocol

The main instrument of this kind likely to be used to increase the area of forest cover in the DRC is the Clean Development Mechanism (CDM). Only afforestation and reforestation projects (on land already deforested back in 1990) are eligible for "carbon credits" subject to a number of conditions (proof that the project involves additional activities which would not otherwise have been undertaken – what they call "additionality" – and assessment/correction of "leakage" risks). Credits generated by the forestry CDM and designed to facilitate organic sequestration of CO2 (carbon sinks), are different to those set up under emissions-reduction projects in other fields due to the problem of "non-permanence" (risk of fires, for example). CERU[19] are "temporary credits" which

19. Certified emission reduction units

may be either "short-term" (valid for the term of the commitment period, i.e. five years) or "long-term" (valid for the duration of the project) and which must be replaced when they expire, either by new temporary credits (with the exception of long-term credits which must be replaced with permanent credits) or by permanent credits from other activities.

In objective terms, the specific nature of CDM credits generated by carbon sink projects in the forestry sector can be a handicap in setting up afforestation and reforestation projects. In addition to the various inherent complications, temporary credits will have a lower market value than permanent credits at the end of the initial commitment period (2008-2012) for reducing emissions within the framework of the Kyoto Protocol. According to recent forecasts, short-term temporary credits could be worth 14% of the value of a permanent credit and 52% of the value of a long-term temporary credit lasting 25 years[20]. With the exception of the World Bank's BioCarbon Fund which buys this type of credit, private investors do not buy temporary credits.

20. At a discount rate of 3%. Figures from Neef & Henders, 2007

Two other problems unique to the DRC also make large-scale use of the forestry CDM difficult:

- the fact that, following a decision by the European Commission, credits generated under the forestry CDM may not be used by companies involved in the European Commission's Greenhouse Gas Emissions Trading Scheme – the only broad-scale scheme currently in operation – to achieve their targets, which reduces potential demand for the credits;
- the reluctance on the part of private investors to finance long-term forestry projects in the absence of any reliable legal framework and against the backdrop of uncertainty as regards land-ownership rights.

At present, only 0.12% of registered CDM projects are in the field of afforestation and reforestation (only one project in China). Large-scale industrial planting projects are regularly ruled ineligible by the CDM Executive Board due to lack of additionality (the projects are already profitable without using carbon credits); small-scale projects (community projects, for example) can rarely free up the financial resources required to cover the cost of putting together a CDM project. Mechanisms such as the World Bank's BioCarbon Fund can help small projects to overcome some financial hurdles but they have a limited purchasing potential.

Potential instruments associated with possible future decisions in the context of the UNFCCC

There is talk of setting up a remuneration mechanism from 2012 onwards for developing countries which succeed in reducing their rate of deforestation (known as "avoided deforestation" or REDD[21]) (UNFCCC 2006). This mechanism would be implemented in each country rather than on each forest plot; the actual rate of deforestation during the commitment period would be compared with the rate under a business-as-usual scenario over the same period. The mechanism is presented as offering a win-win situation: southern countries would receive carbon credits – and therefore financial incentives – if they were to reduce their rate of deforestation but would lose nothing if they failed to meet their targets. Most (but not all) of the proposals suggest that these credits could be traded under the Kyoto Protocol's various emissions trading schemes (fungibility of credits).

21. Reducing Emissions from Deforestation in Developing Countries

However, no firm commitment has been given that such a proposal will be adopted, and even if it is, there is no guarantee that the DRC would derive any practical benefit from it.

Two possible solutions could be mooted to provide some kind of reference framework: either a benchmark scenario based on previous rates of deforestation or a projection for the future rate of deforestation based on the most likely outcome if no specific measures are taken to curb deforestation. Both solutions are problematic. Referring to the past presupposes that deforestation paths in different countries will remain constant over time. However, there is little evidence to suggest that this is the case – firstly since the rate of deforestation in a country is linked to the latter's level of development and the point it has reached in its demographic transition; the rate can also shift as a result of the increased scarcity of forests. This is true of countries such as Indonesia and Malaysia where vast areas of plains forest have been converted into oil-palm plantations and areas for other forms of traditional agriculture. The large swathes of forest which remain are generally located in mountainous

areas and distant regions which are more costly to convert and exploit. On the other hand, the countries in the Congo Basin have seen relatively modest levels of deforestation due to their poor infrastructures and the limited appeal of the region in terms of agricultural investment. In the DRC, the annual rate of deforestation is 0.26% (Mayaux, 2007), however, there is little doubt that although the political situation is stabilising, restoring the country's road network and boosting private investment will lead to increased deforestation – at least in the short term.
If we rule out using past data, then, we will need to try to predict future rates of deforestation based on anticipated changes in a number of key variables. However, it is not only relatively predictable factors such as demographics and road infrastructure which will impact on deforestation rates. Deforestation can also be affected by arbitrary factors such as conflicts (which lead to migration), fluctuations in prices of key agricultural commodities, exchange-rate differences and climatic variations (which increase the risk of large-scale fires and impact significantly on deforestation). The reliability of such scenarios is therefore limited.

To overcome these difficulties, some proposals simply aim to agree a quantitative target with the governments concerned and for remuneration to be paid accordingly. However, there will probably be opposition to this during international negotiations on account of the risk of remunerating non-additional (i.e. notional) reductions in emissions, which would, in turn, lead to a drop in the price per tonne of avoided CO_2. Given what happened in early 2007 under the European system – where the price per tonne dropped to below €1 due to over-generous emissions quotas being allocated to industries by several governments – it is clear that this concern is a valid one. Such opposition might hold less sway if the credits thus generated were prohibited from being traded for permanent credits generated by Kyoto-Protocol activities, however, special funds would need to be put in place in addition to those currently available (such as the Kyoto Protocol's Adaptation Fund financed by a levy on credits generated by CDM projects) and provision made for said funds to be financed.

In March 2007, the countries of the Congo Basin put forward a proposal to the UNFCCC designed to take into consideration not only avoided deforestation (with an "adjustment factor", which would take account of development requirements and therefore, potentially, a necessary increase in deforestation) but also "previous efforts made" to reduce degradation of forested areas and which could be measured by managed (and/or certified) areas. In the proposal, the countries called for "[such efforts] to be taken into account in any future system" through financing provided in the form of a "voluntary stabilisation fund" financed by "a tax on the sale of REDD credits". Under such a system, credits generated by combating degradation could not be traded with those generated by "avoided deforestation". The proposal also seeks to introduce "positive incentives", specifically via institutional capacity-building and based on "development funds" (*fonds d'activation*) although no firm suggestions have yet been made as to how these would be financed. Finally, the proposal also calls for early credits to be made available to facilitate learning and to enable positive incentives to be put in place.

Without wishing to predict such a proposal's chances of success (the proposal itself to be discussed in December 2007 at the 13th Conference of the Parties), it is likely that the principle of remuneration proportional to managed surface area will meet with opposition due to the apparent 'legal requirement' for forest management in all the countries in the Congo Basin (problem of additionality). At a more fundamental level, it is very difficult to determine what degree of additional reduction in deforestation will be achieved through management or certification of forests given the highly selective logging activities in these countries; it is likely that the results will vary widely, will be dependent on specific sites and situations and will only account for small volumes of avoided emissions (in relation to conventional logging). Any remuneration would therefore be virtually a lump sum and would not be calculated on the basis of actual avoided emissions. With regard to the proposed adjustment factor, in practice it would once again be a case of using a negotiated forecast of future deforestation rates rather than taking recorded historical trends as the basis.

Finally, one difficulty common to the various proposals made in connection with avoided deforestation is that remuneration would be paid at the end of the commitment period (with the exception of the call for early credits in the Congo Basin proposal), i.e. 2017 at the earliest. In addition, this remuneration would have to be paid to governments, which would be responsible for taking effective steps to reduce deforestation; this often entails

taking measures at an early stage – measures that are often costly in both social and economic terms – but not receiving the corresponding remuneration (the precise amount of which would be undetermined) until much later. If the players responsible for deforestation (or degradation) do not receive the remuneration directly (either at an early stage or much later), the difficulties will be even greater still.

Voluntary action supported by private funding

Payments for environmental services (PES) are voluntary transactions governed by an agreement between a provider of environmental services (an owner or user, a group, a community, etc.) and a party requesting said services (a company, an NGO, a State, etc.) (Wunder 2005). The service provider is remunerated by the requesting party in line with a negotiated value for the service provided.
Such agreements – which are also used in industrialised countries (Vittel springs, for example) – came to prominence mainly in Central and South America and, specifically, in small catchments areas for reservoirs of drinking water and dams. In Costa Rica and Colombia companies generating hydroelectricity are involved in schemes whereby they pay rural populations to preserve and maintain tree cover to ensure continued water quality and to prevent silting downstream. However, as the study by Wunder et al. (2006) in Vietnam demonstrates, such systems have not yet graduated to use on a world scale or over larger areas: the low remuneration offered and strict government control of land and natural resources have been cited as the main reasons for the scheme's limited use. One specific feature of PES – quite widespread in northern countries – is that of conservation easements, whereby a "conservation investor" pays an owner or community to preserve certain natural habitats located on their property or on their commercial land (Rice et al., 2001). It is possible that such arrangements could be made with communities awarded a logging concession contract, as stipulated in the DRC's Forest Code.

Another feature of PES, the "conservation concession", is being actively promoted by Conservation International: the latter has already set up two such concessions in South America (Niesten & Rice, 2003) and another is currently being set up in the DRC (Coxe, 2007). This system, which is mentioned in the DRC's Forest Code, does not require any individual, private, pre-existing ownership rights over forests which are to be preserved nor any minimum legal limit on the area to be covered by forest. It aims specifically to protect forests from various destructive activities, including logging. A conservation concession may be set up as a preventive measure and either an annual amount may be paid to the government and the various stakeholders to compensate for lost revenue, or the logging rights awarded by the government may be bought from the loggers.

Such rights may be purchased directly from the government provided that the area in question has not previously been allocated as a concession to a logging company (or a community). In such cases, the compensation paid by a conservation investor to the State would be equivalent to the taxes and fees paid by a conventional concession owner. While the land fees payable on the concession area are easy to calculate, account should also be taken of the tax no longer payable on felled trees and exported timber and which an active logging company pays to the State, as well as the cost of jobs lost or not created. However, this compensation is closely linked to the institutional arrangements in place at any given moment in a country. In countries in which the procedure for allocating logging permits has been reformed and a tender system has been adopted (as stipulated in the DRC's Forest Code), or in countries in which both the rate of forestry taxation and the wages have been increased, the level of compensation will be much higher.

In addition, calculating the amount of revenue lost by individuals in local populations does not factor in the wide range of opportunities available to them to boost their income. This means that the long-term "allowances" proposed are based on the current poverty level among populations and on a context where not many such opportunities are available (the potential for ecotourism in densely forested areas is relatively limited) and this poses an ethical problem (Karsenty, 2007).

Hybrid instruments

"Hybrid instruments" are combinations of different types of mechanisms, or scenarios where a financing mechanism is combined with instruments not designed to fund conservation or sustainable forest management (such as taxation).

PES could be combined with an avoided-deforestation mechanism if such a principle were put in place. This would entail, for example, negotiating with the DRC's government for the latter to fund land-use projects (such as, for example, creating conservation concessions) pending anticipated credits generated by the REDD system: the development partners would lend money (bilateral or multilateral early credits) at an early stage (before the results of avoided-deforestation schemes in the DRC become apparent at the end of the commitment periods) and the government would then pay the advance loans back to the donors using any credits received in return for avoided deforestation.

An effective way to encourage independent forest certification would be to lower forestry taxes for certified concessions. However, the government may be reluctant to take a step which would mean its income would be reduced the greater the area certified – unless its losses were to be offset by an ad-hoc fund (such as that proposed by the countries of the Congo Basin) financed on a voluntary basis or via automatic levies on assets (similar to the tax on air tickets introduced in France). It would certainly be more effective to use a reduction in taxes to remunerate certified companies directly than to pay governments for the number of certified concessions on their territory.

Prospects

Bilateral mechanisms (debt-for-nature swaps, payments for environmental services, conservation concessions) are all restricted in that they are dependent upon funds made available on a voluntary basis by States, foundations and groups of conservation investors in applying them to conservation and sustainable forest-management projects. Multilateral instruments, in particular those reliant upon market mechanisms such as the CDM, in theory have greater potential for being able to generate funds. However, use of the CDM in the forestry sector is hampered by several internal regulations governing the mechanism itself, the low current value of credits and uncertainties surrounding land-ownership rights in several African countries, in particular in the DRC. Other multilateral mechanisms such as those pertaining to avoided deforestation are currently under discussion but there is no guarantee that they will be adopted and only a very favourable outcome to negotiations within the bodies of the UNFCCC will give the DRC any prospect of benefiting from them. It is also vital that the government takes measures at an early stage and specifically targets the players responsible for deforestation to ensure that real environmental progress is made.

The hybrid instruments – in particular those which combine forestry taxation and various compensation mechanisms – offer a real incentive for improved forest management within logging concessions and can be put in place rapidly as soon as sufficient long-term bilateral funds can be made available.

In conclusion, it is important to underline that most of these instruments are based on contractual arrangements with the government (and local government bodies) or with local communities and that in this respect, the quality of the institutions themselves and the way in which they operate will be key factors in implementing these instruments effectively and in a sustainable manner. Without any rapid and broad-scale improvement in the way the DRC's institutions operate, the prospects afforded by these various mechanisms and instruments will be academic, regardless of the numerous needs and purposes – both global and local – served by natural areas.

TREE PLANTING AND THE IBI-BATÉKÉ CARBON SINK PROJECT: A GLIMMER OF HOPE FOR FORESTS IN THE DRC

- *Olivier Mushiete, Chief of Ibi Village and project manager of the Ibi-Batéké Carbon Sink project*

Local initiative, global vision

The Ibi-Batéké Carbon Sink (I-BCS) project is the main element of an integrated rural development programme that has been running since 1998 at Ibi Village[22]. The full specifications for this unique programme set out concurrent activities in four areas: (i) agroforestry, (ii) agroindustry, (iii) rural construction and (iv) ecotourism.
Inspired by local communities and with international support, the aim of the I-BCS project is to promote reforestation and clean renewable energy. It aims to convert an area of edaphic natural grassy savannah – regularly scorched by intense fires of human origin – into an abundant and renewable source of firewood and wood charcoal. Alongside carbon in the atmosphere being absorbed and sequestered by the growing forest, emissions of greenhouse gases will be reduced due to fewer savannah fires and the prospect of replacing fossil fuels with renewable energy.
This forestry-CDM mechanism will be implemented on the Batéké plateau in the Democratic Republic of Congo. Some 90% of the plateau is covered by grassy, sparsely wooded savannah, which is set alight several times a year despite the equatorial rains, while the remaining 10% is gallery forest which has suffered significant deforestation by local populations who use it for low-yield subsistence farming (maize, cassava, groundnuts, cowpeas) and extensive small-scale manufacture of wood charcoal.
The strategy behind the project – the project managers themselves being members of the local Batéké community which has inhabited the plateau for several generations – is designed to integrate agricultural and forestry production with agroindustial production of products with added value such as cassava flour, maize flour and wood charcoal while at the same time ensuring that local communities are able to play an active role.
The I-BCS project seeks to generate economic progress while implementing systems to promote sustainable development. It works to protect and build up forest plantations and preserve biodiversity in harmony with local populations while at the same time striving to combat global warming via forest sequestration of CO_2.
In the DRC, the forest carbon sink mechanism is the most effective way to ensure active involvement in the carbon market and to encourage those responsible for deforestation to change their behaviour by offering them jobs which are better suited to valuing and preserving natural resources. Revenue from the carbon market will give working people in local communities an economic incentive to switch to practices which will give them a future and will be much more relevant to them.

22. Ibi Village: www.ibi-village.cd

A sustainable project

The launch phase of the I-BCS project will generate a permanent stock of 345,000 tonnes of CO_2 or Certified Emission Reduction Units (CERU) in 2017. To achieve this initial objective, 1,800 ha of forest comprising fast-growing species will be planted and will replace the grassy savannah dotted with scrawny bushes.

From 2013, a proportion of the timber biomass will be converted into wood charcoal for sale in the capital Kinshasa, a large city of approximately 10 million inhabitants. In addition, some of the wood harvested will be sold locally as timber (for construction) or lumber (for fencing). The wood will be logged over areas covering 400 ha to ensure a permanent stock of carbon.

The trees will be interspersed with cassava plantations, which will support them and protect them from fire. They will ensure a secure supply of food for the people of Kinshasa and the sale of cassava flour will guarantee the project a regular income.

Once the first phase is fully up and running, the project will move into a second phase (expansion) to cover a total area of 8,000 ha, which, over a three-year period, will generate an additional stock of approximately 2 million tonnes of CO_2. The launch phase is needed to set up the required infrastructure and manage know-how with a view to expanding the project significantly over a short period.

To achieve these objectives, the I-BCS project comprises four plantations divided into two distinct phases:

Phase 1 – Launch (2007-2009)

- 1,200 ha of *eucalyptus urophylla* mixed with different varieties of acacia (gap-filling species);
- 600 ha of various indigenous species of broad-leafed trees and mixed, experimental planting

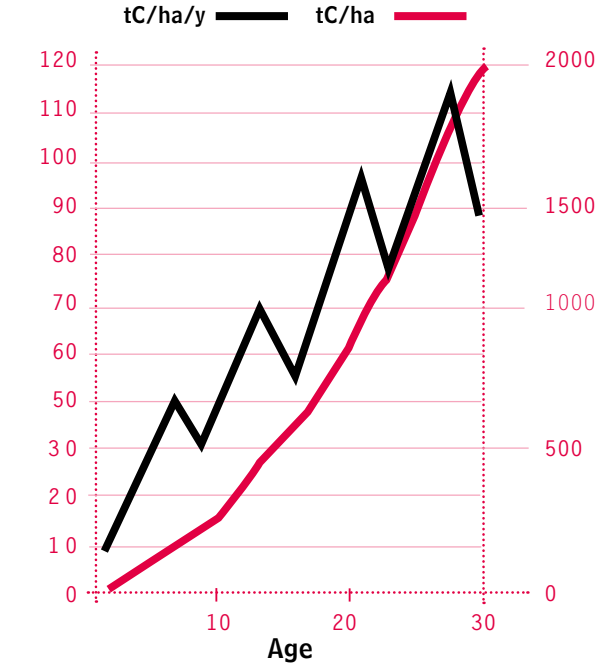
Phase 2 – Expansion (2010-2012)

- 2,500 ha of *eucalyptus PF1* mixed with different varieties of acacia;
- 3,200 ha of pines mixed with different varieties of acacia.

Growth and carbon-sequestration tables compiled using benchmark parameters (see table below) and based on Phase 1 only detail the annual cumulative change in carbon storage. They show that the underlying stock remained positive despite periodic wood harvesting (see diagram below).

Parameters used to measure carbon levels	
Parameters	**Initial values**
Wood density	0.55
Expansion factor	2.04
Carbon content	0.5
Litter	0.25
CO_2/C	3.67

Change in net carbon storage



Varied species for a multi-faceted project

Vegetation

The following species of trees will be used:

(a) Non-native species: *eucalyptus urophylla, E. grandis, E. tereticornis, E. camaldulensis, E. pellita, E. resinifera, acacia mangium, A. auriculiformis, A. crassicarpa, pinus oocarpa, P. caribea, P. tecunumannii.*

The non-native species used for the project have been planted for over 20 years in the region, in Congo-Brazzaville and in the DRC. Initially, the I-BCS project will use seeds from former plantations until it can produce itself the required seeds for expansion. None of the species used are listed as invasive or as having been genetically modified.

(b) Indigenous species: *millettia laurentii, M. drastica, cleistopholis glauca, C. patens, erythrophleum africanum* and others, depending on local-market demand and the progress made in applied research work carried out as part of the project.

The strategy of the I-BCS project is to use new or old indigenous species which have been hitherto little used such as *cleistopholis, millettia laurentii, millettia drastica, pentacletra sp., erythrina tomentosa, cussonia angolensis, uapaca* and *xylopia*.

Other specific species such as *mangifera indica, anacardium occidentale* and *dacryodes edulis* will be used for protection against fire.

Pines will be planted using pre-fertilisation process, alongside *acacia mangium* and other suitable soil preparations.

Species will be planted and harvested in turn each year and will be selected for the following unique characteristics:

- high yield;
- wide-scale use in tropical plantations without any risk of contamination outside the plantation area;
- the source of original vegetation can be monitored as can the vegetation produced in the germination beds;
- vegetation is produced immediately as soon as the project starts, thereby enabling the latter to expand as quickly as possible;
- species already used in the DRC: details are available as to performance and the latter has been evaluated during the preparation stages of the I-BCS project.

Soil preparation

The soil will be prepared manually using employment-intensive (EI) techniques supported by light machinery. Upkeep of the plantations and protecting them against fire will require manual work and appropriate machinery. The plan is to perform minimum tillage to prepare the ground and to control weed-growth via manual weeding and low-concentration sprays.

Using these simple, rustic techniques on the plantation will mean that the project will get off the ground quickly while at the same time engaging human resources on an intensive scale. Accordingly, in three years the initial phase of 1,800 ha of planted forest will have been achieved at a moderate and attractive level of investment.

Social and environmental aspects

Creating jobs for the local community is one of the most eagerly anticipated benefits of the I-BCS project, which will provide 25-40 permanent jobs and up to 300 temporary jobs for a period of 4-6 months a year. Production of wood charcoal alone will require a permanent team of around 30 destructive-distillation workers.

In environmental terms, by generating income for local communities and producing wood charcoal from well-managed forest plantations, the project will reduce deforestation of gallery forests and these will, in turn, gradually regenerate. In the long term, larger and larger forested areas will become key havens for wildlife.

Due to the rapid growth rate of the tree species selected, in less than 10 years a large proportion of the Ibi savannah will be transformed into forest and the landscape of the area will be altered profoundly.

International standards

Sustainable management of the forest planted under the I-BCS project will be certified in line with recognised international forestry-management standards such as, for example, the Forest Stewardship Council (FSC). The I-BCS project will use appropriate and recognised techniques to produce wood charcoal.

All those involved in the project – the Congolese State, the local population and investors – recognise that this forestry-CDM mechanism will contribute hugely to sustainable and integrated development of the local community. The various aspects of the project are extremely diverse and it offers a range of suitable solutions at different levels:

Level	Aspects
Local	— Creating a sustainably managed forest — Providing forest- and non-forest products: timber, lumber, other non-forest products, etc. — Permanent environmental services
Short term	— Creating permanent jobs: nurseries, soil preparation, plantation maintenance, and protection against fire — Various forestry activities — Wood harvesting and destructive distillation — Ongoing management and replanting of the tree population
Medium term	— Encouraging an entrepreneurial spirit: cooperatives, developing specialised local crafts — Creating jobs in processing harvested wood
Regional	— Substituting wood charcoal from natural forests with that from cultivated forests — Preserving and regenerating biodiversity in a natural way — Managing and/or reducing erosion — Maintaining a constant high-quality supply to the aquiferous system
National	— The model is easy to replicate on the Batéké plateau or in other regions of the DRC on other savannahs bordering forested areas
International	— The model is easy to replicate in other regions of Central Africa, on other savannahs bordering forested areas — Permanent sequestration of large quantities of CO_2 — Practical response to the global problem of climate change — Difficulty of sharing resources on an international scale and deriving value from them in a sustainable manner

The Ibi-Batéké Carbon Sink - a pilot project for the DRC

Among the various routes proposed by the Kyoto Protocol's Clean Development Mechanism, afforestation in particular has caught our attention. Until now, no one has managed to mobilise the vital technical, human and financial resources required to really halt deforestation around the city of Kinshasa.

The I-BCS project creates a crucial link between the desire expressed in the field and the resources available in the industrialised world. Some of the main arguments in favour of the project are the vast area covered by savannah, its location, its natural boundaries, an homogenous ecological context, water availability and the extensive experience of the project's managers.

In an international context characterised by increased awareness, the I-BCS project affords opportunities which should not be squandered. The first forestry CDM in Africa in the true sense, it has the advantage of being an innovative pilot model for large-scale available areas which are easy to access and one which can easily be replicated. The goods produced are destined for markets which are in the throes of expansion both at international level within the carbon-credits sector and national level within the agri-food industry.

The I-BCS project is a modern-day example of a public-private partnership bringing together many national and international players. And the project is borne out of the global issue of climate change, a topical subject which now takes priority on the agenda in terms of international public opinion.

SETTING UP A TRUST FUND TO SUPPORT MANAGEMENT OF PROTECTED AREAS IN THE DRC

- *Brigitte Carr-Dirick, Senior Conservation Finance Advisor, WWF Central Africa Programme Office*
- *Guy Debonnet, Programme Specialist, Natural Heritage, World Heritage Centre, UNESCO*
- *Jean-Pierre d'Huart, Director, Conservation Consultancy Services sprl*

Summary

With 10 million ha of protected areas, over half of which are designated by UNESCO as World Heritage Sites, the DRC has a crucial role to play in conserving the biodiversity, ecosystems and genetic resources of the Congo Basin and the latter's global contribution to the environmental balance of the planet as a whole is increasingly being acknowledged. An Institutional Review of the Congolese Institute for Nature Conservation (ICCN), the organisation responsible for managing this protected-area network, identified, among other things, the importance of putting in place a sustainable financing mechanism to ensure that the network can continue to function by setting up a conservation trust fund. This article sets out the underlying principles of the concept of a conservation trust fund and looks at the feasibility of setting up such a fund to promote protected areas in the DRC. Based on experiences in setting up similar funds in Africa, steps are outlined as regards defining the profile of such a fund: this profile will set out the fund's underlying features and will serve as a marketing tool to attract potential founders and partners. Following the announcement by Belgium's Minister for Development Cooperation of his country's contribution to setting up and funding such a mechanism, the next steps in the set-up process are also outlined.

Protected areas in the DRC cover almost 10 million ha and 8.5% of the country's area. The network contains seven national parks and three biosphere reserves together with numerous wildlife and hunting reserves. Altogether, they are home to almost 500 species of mammals, 1,000 species of birds, 350 species of reptiles and over 200 species of batrachians. They form a unique mosaic and are vital on account not only of their ecosystems and biodiversity, but also of their huge gene pools and their overall contribution to the local and national economy and to the environmental balance of the planet as a whole.

The international significance of this protected-area network is demonstrated clearly by the fact that five of the areas (four national parks and one wildlife reserve) have been included on UNESCO's prestigious list of World Heritage Sites on account of their exceptional value in terms of biodiversity and ecosystems. The government has also expressed its desire to extend the protected-area network to at least 15% of national territory.

Management of this national protected-area network is the responsibility of the Congolese Institute for Nature Conservation (ICCN), a public institute set up in 1969. At both national and local level, the institute receives technical and financial support from a wide range of partner institutions. Some of the institute's bilateral and multilateral partners include the World Bank, the Central African Regional Programme for the Environment (CARPE) financed by USAID, the German Development Cooperation, the Belgian Development Cooperation, the Global Environment Facility (GEF), the United Nations Development Programme (UNDP), the European Union (EU) and UNESCO. The ICCN also works closely with many national and international NGOs including the African Wildlife Foundation (AWF), the African Parks Foundation (APF), Conservation International (CI), the Wildlife Conservation Society (WCS) and the World Wide Fund for Nature (WWF).

Over the past two years and with the support of the European Union, the ICCN has undergone an Institutional Review designed to (i) assess the institute to determine what stage it is currently at, and (ii) draw up a reform and consolidation programme in the short to medium term, to equip it to implement national nature conservation policy in the field. The recommendations made by the Review are based on close consultation with all stakeholders.

One of the key aspects of the Review focuses on the question of shoring up long-term financing for conservation measures in the DRC. Even before the country became ravaged by conflict, the ICCN was unable to pay its staff, in particular national park guards. To varying degrees, this has had serious repercussions for conservation of protected areas. Between 2000 and 2005, UNESCO covered these costs for the five World Heritage Sites and, since the *Congo: Heritage in Danger Conference* held in Paris in September 2004, these payments have been met via projects run by various donors. However, this situation cannot continue. While largely inadequate, funding of the ICCN's activities exclusively via international cooperation nevertheless provided a temporary response to a crisis situation but this cannot go on indefinitely.

One of the recommendations made by the Review in this respect is to set up an international trust fund (referred to in this article as "Foundation"). Revenue from this fund generated via capital invested on international financial markets could provide a sustainable source of financing for conservation measures in the DRC. This recommendation is based on, among other things, the positive results achieved by similar projects in Africa such as the Madagascar Foundation for Protected Areas and Biodiversity, the International Foundation for the Banc d'Arguin (FIBA) (West Africa) and, closer to home, the Sangha Tri-National Foundation (Cameroon, Republic of Congo and the Central African Republic) set up in early 2007.

Many players, both private and public, have, either formally or informally, expressed an interest in such a proposal. Therefore, this article is designed first and foremost to give a brief reminder of what constitutes a conservation trust fund and to set out the main benefits and drawbacks of this kind of financing mechanism. It will then seek to a) examine how feasible it would be to set up a Foundation, b) put forward various initial thoughts as to what its main features might be, and c) outline the stages involved in setting it up.

Conservation trust funds

A trust fund can be broadly defined as a sum of money or collection of goods which a) may only be used for one or more specified purposes, b) must be kept separate from other funding sources, and c) is managed and controlled by and independent Board. Conservation trust funds have been set up in over 50 countries to provide a source of long-term financing for various purposes such as a specific protected area, a complete network of protected areas within a country, a transnational protected area, conservation of a particular species or to provide small-scale subsidies to communities or local NGOs running conservation projects.

The first step in setting up a conservation trust fund entails putting in place a legal structure to define how its financial resources will be used and appointing a mixed Board made up of representatives of the various stakeholders. The fund will also need to have the relevant operational and strategic tools such as a manual setting out procedures, details as to how funds are to be generated, a guide to allocating funds and an investment strategy.

Trust funds may take one (or combine several) of the following forms: a) an endowment fund, whereby the capital is invested on an ongoing basis to generate a constant source of revenue (5% a year on average) and where investment income only is used to support conservation activities, b) a sinking fund, whereby not only investment income but also a certain annual percentage of the capital is used resulting in said capital gradually being reduced to zero over a predetermined period (generally 10-20 years), or c) a revolving fund supplied by periodic income from usage rights or special taxes.

It is important to avoid some potential pitfalls, though, when setting up and managing a conservation trust fund, not least the risk of generating excessive administrative costs or embarking upon an over-ambitious investment strategy on international markets. However, as a general rule, such funds offer significant benefits:

- the opportunity to plan long-term activities in a coordinated manner;
- the opportunity for many different players to be involved in governance and thereby to help ensure transparency and shared decision-making, and to help shore up the role of civil society;
- remains unaffected by political changes;

- the opportunity to avoid fluctuations in national currencies by investing in strong currencies;
- the ability to react flexibly to beneficiaries' absorption capacity;
- ability to attract new public and private players.

The various stages involved in setting up a fund are generally a feasibility study, appointing a steering committee, stakeholders defining the profile of the fund, ascertaining its legal status, drafting operational tools, appointing members of the Board and, finally, completing the legal formalities associated with the set-up process.

Feasibility of setting up a Foundation for protected areas in the DRC

The Institutional Review recommends setting up an international Foundation through which revenue from capital invested on international financial markets can be used as a sustainable source of financing for conservation measures within the DRC. A study carried out by UNESCO in 2002 concluded that such an initiative was feasible for the country's five World Heritage Sites. With reference to the factors considered important in setting up conservation trust funds as defined by the Global Environment Facility (GEF) several years ago, the prospects for successfully setting up such a mechanism to benefit protected areas in the DRC appeared very positive.

In this regard, the following aspects should be borne in mind: the DRC has biodiversity resources which are crucial to world heritage and any action requiring funding should be rooted in a long-term framework. The public authorities have indicated their agreement in principle to a private fund with the legal and fiscal guarantees required to attract new players and the country has mechanisms in place which will enable stakeholders to be fully involved in creating the new Foundation. "Promoters" such as the German Development Cooperation, the Belgian Development Cooperation, UNESCO, the European Union and the WWF are prepared to lend the Foundation moral and technical support during the launch and implementation stages. Existing and future support programmes will also be used to implement the reforms needed to put in place solid management systems within the ICCN Directorate and the protected areas themselves. Finally, some players have already shown a formal interest in releasing capital: Conservation International, the French government via debt-relief mechanisms, the German Development Cooperation and the Belgian Development Cooperation. Other donors have informally expressed an interest.

Suggested initial profile for the Foundation

The first step in setting up the Foundation will be to define its "profile" to clearly set out the Foundation's underlying features and to serve as a marketing tool to attract potential founders and partners. The profile will contain details of the Foundation's objectives, its legal structure and management and administrative structures, its strategy for releasing funds, its investment strategy and the eligibility criteria for accessing its funds. All stakeholders must be involved in defining this profile, which must be based on the recommendations made by the Review and on recent discussions between the ICCN and its partners. Some aspects may be put forward at this stage to be used as a basis for discussion.

The proposed main purpose of the Foundation will be to help provide the specific financial resources required to manage protected areas considered to be of priority significance by the ICCN in the context of its strategic planning, in terms both of protection and sustainable management of natural resources. The financial resources required will be recurring priority financing as set out and approved in the respective management and finance plans, such as costs associated with protecting the areas in question, training and capacity-building for the staff and players involved, raising awareness of local populations, economic operators, local authorities and administrations, setting up and running mechanisms to ensure that the various players involved work together effectively, monitoring/evaluation (organic and socio-economic), and so forth.

The following factors must be borne in mind when choosing the Foundation's legal structure: the lack of any specific legal requirements as regards trust funds in the DRC, the still limited investment opportunities in the

country, the need to set up a mechanism that is both profitable and effective, and the need to ascertain the prospect of being able to generate funds. The suggestion is therefore to set up an international Foundation in a third country with attractive fiscal and legal provisions, which would then be authorised to operate in the DRC where it would be covered by a system enabling it to receive funds from the national budget and to be exempt from tax. The choice of the third country would have to be based on the experiences of similar foundations (such as the TNS Foundation set up in the United Kingdom), and taking into account the need for the most flexible legal system, the most favourable tax conditions and the best possible financial return.

The proposed governance structure would seek to minimise costs while at the same time ensuring that the Foundation operates as efficiently as possible in technical terms. The Foundation would therefore have a mixed independent Board with the majority of representatives from the private sector, and comprising a limited number of directors representing the interests of all the players involved (the government, donors, the scientific community, national and international NGOs, the private sector, civil society), with a marked focus on preserving biodiversity and managing protected areas, and with a broad range of technical, scientific, legal, administrative and financial expertise in the field in releasing funds. To keep administrative costs to a minimum, the Board's decisions would be implemented by small team of executive staff who would also be responsible for day-to-day management of the Foundation.

The financial structure of the Foundation should include a system of "windows" for one or more protected areas since some donors may wish to work more closely with one specific protected area with which they have built up a particular relationship over time. Financial and cost projections should be drawn up jointly for each of the protected areas to give a coherent, realistic and accurate overview of the level of funding required by the Foundation.

Potential sources of financing would include both national – such as income from tourism or hunting taxes – and international ones (multilateral donors such as the World Bank, the Global Environment Facility, the United Nations Development Programme, the European Union, etc.), bilateral donors (Germany, Belgium, Canada, the USA, France, The Netherlands, etc.), international NGOs and private foundations.

The Foundation's investments would be managed by an internationally recognised portfolio manager in line with the main aspects agreed by the Board. The strategy will include a diverse range of investment types and markets. Currency funds will be invested on the international financial markets to generate an appropriate rate of return.

The Foundation will need to be audited each year by an internationally recognised firm of auditors.

Proposed process for setting up the Foundation

The main steps involved in setting up the Foundation are set out below.

The first step will be to define the Foundation's profile, i.e. set out its underlying features to be used as a framework to determine its key aspects. Once the profile has been defined, the second step will be to compile and register the Foundation's various legal instruments: this will entail drafting the required legal documents (founding charter, articles of association, rules of internal procedure, etc.) and physically registering these instruments, issuing the required authorisations, appointing the Board and the Executive Director, and so forth. Finally, various technical studies will be carried out to ensure that the Foundation has all the operational and strategic instruments it requires: a manual setting out procedures, details of how funds are to be generated, a guide to allocating said funds and an investment strategy.

The process will be implemented in three stages: firstly, it would be advisable to have a preparatory stage during which preparations could be made by a small team headed up by an ICCN representative and comprising representatives from the World Bank, the German Agency for Technical Cooperation (GTZ), the UNDP, UNESCO and the European Union. This preparatory stage – which could be supported by experts and sustainable financing from partner NGOs – would have two main purposes: firstly it would organise a technical meeting for all the players involved to tell them about the concept of a conservation trust fund, the initial, realistic prospects for the Foundation and the stakeholder process for creating and setting up the Foundation.

It would then help to organise the first meeting of an International Council responsible for actively guiding, encouraging and promoting the measures required to set up the Foundation and equip it with the strategic and management structures needed. Based on experiences in other countries, the International Council ought to comprise no more than 10 members, appointed as individuals and over half of whom must be from the private sector and civil society. It should meet regularly to discuss and approve technical guidelines and documents prepared under the guidance of a national "facilitator" in overall charge of running and overseeing the ongoing process of designing and setting up the Foundation in partnership with the International Council.

Subsequent steps

The announcement by the Belgian Minister for Development Cooperation to the Brussels Conference on Belgium's willingness to support the process of setting up the Foundation and to make an initial contribution to its funding is a major step forward. At present, the Belgian government, the WWF, UNESCO and the World Bank (via the World Bank/WWF Forest Alliance) are preparing to get this process under way. As mentioned above, several donors have already informally expressed an interest in the fund. Work to secure the Foundation's funding will go hand-in-hand with implementation of the recommendations and reforms put forward in the Institutional Review. Transforming the ICCN into a high-performance institution capable of managing the DRC's protected-area network efficiently and backed up by sustainable financial support via the Foundation will play a major role in preserving the biodiversity of the world's second largest area of forest.

FOREST CERTIFICATION AND MANAGEMENT - CHALLENGES AND PROSPECTS FOR FORESTS IN THE CONGO BASIN

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Summary

Sustainable forest management (SFM) and forest certification, an instrument that supports SFM, are recent developments in the Congo Basin. Full implementation is still a long way off and is complex but holds extremely promising prospects for the future. This article aims to give an overview of the current status as regards certification of forests in the Congo Basin but does not address problems upstream (such as defining sustainability or identifying stakeholders) or downstream (e.g. traceability of the chain of custody): these are dealt with extensively in other available literature on the subject.

Emergence and format of forest certification

In the late 1980s, environmental NGOs (Greenpeace, Rainforest Alliance, Friends of the Earth and several national branches of WWF) called for boycotts against consumption of tropical timbers in several northern countries in a bid to halt the destruction of tropical forests. The underlying argument was that industrial and commercial logging of tropical timbers was the main cause of this deforestation and that boycotting products from these forests would reduce logging and therefore deforestation. This initiative – well publicised by media campaigns – appeared to have mixed results in the early 1990s. It did little to encourage loggers to review their practices – so little, in fact, that loggers were seen as the main perpetrators of deforestation despite the fact that only a small proportion of the timber logged was destined for 'sensitive' Western markets while a significant amount of deforestation was due to other players (e.g. farmers, stockbreeders and miners). The impact this boycott had on developing forest resources was therefore limited and considered debatable – if not counterproductive – by those who had promoted it (Buttoud & Karsenty, 2001).

In 1989, the American NGO Rainforest Alliance therefore launched a programme that took a different approach. Rather than boycotting products from tropical forests, this initiative opted to support consumption of products from well-managed forests. It developed a new system – certification – to identify these products. In the years that followed, the number of certification labels rose to almost 600, thus threatening the credibility of this new approach. A group of organisations therefore decided to introduce a joint system with harmonised criteria and a single certification label and the Forest Stewardship Council (FSC) was set up in 1993.

At the same time, in 1992, the International Tropical Timber Organisation put forward the Criteria and Indicators (C&I) concept for the sustainable management of production forests (ITTO, 1992) – a concept which came to international prominence following the adoption of the Forest Principles at the Earth Summit in Rio and which was later implemented in a variety of ways by several players. It was essentially an instrument to support decision-making and was designed to assess the sustainability of forest management at both national and transnational (forested areas) level.

In comparison with the boycott by Western markets, these two initiatives - certification and criteria and indicators – were meant to be realistic and direct by targeting forest managers and influencing practices in the field.

From a technical point of view, the difficulty of designing an operational system for C&I lies in having to cover the wide range of issues connected with sustainable forest management through measuring only certain representative elements (Lescuyer, 2006) and to define the meaning and format of sustainable forest management in connection with tropical forests. Currently, there is no authoritative generic definition and each institution operating in the field of forest management issues its own definition. In fact, several considerations are almost always present (e.g. ecological, economic, social, institutional or technical) but the weighting – and content – of each varies. These differences are even greater when these C&I are used to implement a forest certification

procedure for which the procedural conditions, players and practical objectives may differ significantly. This is the case in the Congo Basin.

Current status of forest certification in the Congo Basin

This international pressure in support of forest certification emerged in the Congo Basin with the arrival of new financing programmes, players and coalitions from 1996 onwards.

Existing sustainable forestry certification systems in Central Africa

Reluctance on the part of logging companies in the late 1990s as regards the certification process, however, has not prevented several major organisations, such as the ATO, the ITTO, the WWF and CIFOR from making the process a strategic issue, obtaining substantial financing for it and – wisely – appealing to National Working Groups (NWG). In addition, logging companies are increasingly feeling pressure from these same international organisations, parent companies, Western markets and NGOs. Certification is therefore becoming a way for logging companies to make their brand image 'more green', as well as offering the potential to capture new commercial niches on Western markets. The same applies to the countries concerned for whom certification is a means of showcasing the wider issues of sustainable management and good governance.

The requirement to draw up a management plan for each concession obtained has also acted as an incentive for logging companies to move towards certification. By significantly improving a company's environmental management system, work to prepare and implement a management plan meets many of the conditions required for certification. Thus, in comparison with the legal requirements for sustainable management, and under the condition that they are actually implemented, the quantitative/qualitative leap towards certification may appear to be relatively small: it essentially requires certain additional C&I to be taken into account and the direct costs connected with the certification procedure to be covered.

This incentive/pressure has rapidly led to more and more logging companies becoming involved in certification: since 2002-2003, the majority of companies that took serious steps to implement management plans have expressed an interest in securing medium-term certification for their concessions. There are currently four potential forest-certification systems available in Central Africa:

- The **Keurhout** certification system: this system meets the minimum SFM criteria established by the Dutch government for its domestic market. The basic prerequisite is that forest management promotes environmental action and ensures that forests continue to provide economic, social and cultural benefits. This label, created in 1996 and suspended at the end of 2003, was relaunched during 2004 by the Dutch Timber Trade Association (VVNH). Its short-term objective upstream is to cover more concessions in the Congo Basin and, downstream, to extend its label to other European markets.

- The **FSC** system: an international organisation, the FSC has set out 10 Principles and Criteria for sustainable forest management. These are then implemented through national FSC Initiatives as national/local performance standards. These national structures, like the FSC itself, are made up of three bodies representing the economic, environmental and social aspects of forest management. No such structure currently exists in the Congo Basin despite support for NWGs in Cameroon and Gabon, for example. The establishment of the FSC in Cameroon and, in the medium term, in the Central African Republic and the Democratic Republic of Congo should nonetheless help to set up these consultation bodies and to draw up national benchmarks.

- The **Pan-African Forest Certification (PAFC)** system: this system was set up in late 1999 following work by ATO/ITTO on the C&I. These C&I designed for the sub-region are implemented in various ways in each country by NWGs among others. The objective is to then have these national certification systems validated by the Programme for the Endorsement of Forest Certification (PEFC) so that they are recog-

nised at international level. This is already the case in Gabon where the PAFC is currently being endorsed by the PEFC. The Cameroon PAFC is due to be launched by the end of 2007.

- The **International Organisation for Standardisation (ISO)** system: this system provides a framework for certifying environmental management systems. The ISO 9001 and 14001 systems deal more or less with the same areas as forest management certification, the only exception being that they do not stipulate performance standards for forest management and do not allow a label to be used for products. It is therefore up to the organisation applying for ISO certification to draw up its own environmental review, and taking this as a basis, to define a policy with objectives and measures to implement and monitor it. ISO does not, therefore, assess compliance – this is dealt with by independent certification bodies.

Certifying the legality of timber

The various systems for certifying sustainable forestry should not mask the difficulties faced by this approach – difficulties evidenced by the delayed application of such a system in the Congo Basin. Export-oriented companies, like countries importing tropical timber, have thus considered using a simpler procedure to certify the legality of timber traded on the world market. In countries where legislation requires sustainable forest management, certifying the legal origin of timber indirectly comes down to proving that it has been logged sustainably, at least for the PAFC based on compliance with international regulations. For the FSC, which applies performance standards, this is only one step – albeit essential – towards certification. The main advantage of this approach is that it is far easier to ascertain whether a forest product is legal than it is to analyse various C&I in respect of sustainable management. The main drawback, though, is that this certificate of legality does not authorise the use of any commercial label.

Two systems for certifying the legality of timber currently exist in the Congo Basin:

- by private companies (Eurocertifor, SGS, Smartwood), which assess logging companies' compliance with national regulations. This assessment leads to a certificate of origin and legality for forest products which can be a crucial step towards subsequent certification (Vandenhaute & Heuse, 2006). The main difficulty with these certificates lies in the fact that they are both sold and inspected by private companies, the latter therefore being largely omnipotent.

- by the State, as in the case of Cameroon, which has concluded a voluntary partnership agreement with the European Union as part of the Forest Law Enforcement, Governance and Trade (FLEGT) process to monitor the legality of exported forest products. A checklist for legality was drawn up and discussed at length at a national workshop in September 2006 and discussions are still underway about a traceability system in Cameroon. This should all lead, in the medium term, to a monitoring and traceability strategy. The other countries of the Congo Basin are also set to commit to this procedure in coming years.

Current implementation

Forest certification takes several forms in Central Africa since systems for certifying sustainable forestry must be distinguished from those for certifying legality. The following table summarises the various certification initiatives for sustainability and legality in place in the countries of the Congo Basin at the start of 2007.

Certification initiatives								
	Cameroon		Congo		Gabon		Equatorial Guinea, CAR, DRC	
	No. of companies	Surface area	No. of companies	Surface area	No. of companies	Surface area	No. of companies	Surface area
FSC Certificate	1	41,965	1	267,048				
Involved in FSC	6	1,047,639	1	480,000	2	905,000		
Keurhout Certificate (expired)					3	1,480,268		
ISO certification					3	1,480,268		
PAFC Certificate								
Certificate of legality	4	787,872	2	2,600,000			1	1,900,000

The FSC, therefore, is currently leading with two certified forests, one in Cameroon (UFA 09-021 run by Wijma) and the other in the Democratic Republic of Congo (Kabo concession run by CIB). At sub-regional level, around 10 companies have developed more or less advanced relations with the FSC (e.g. pre-audit or audit) and this should lead, in the medium term, to certification of around 1.3 million hectares.

The Keurhout label is falling behind because certificates have not been renewed by logging companies, probably due to the low profile of the system on European markets. These companies have, nonetheless, benefited from their time with the Keurhout system by adopting ISO management standards and this remains a significant step forward for any certification system.

The PAFC is still in the validation stage in Gabon and the design stage in Cameroon. However, three companies active in Gabon say that they are interested in this certification system in respect of a total surface area of almost 1.5 million hectares.
Finally, certificates of legality, after having increased in number in 2004-2005, now seem to be feeling the repercussions of their lack of impact on Western markets. These certificates, however, are considered to be a required transition stage for many companies on the path towards international certification.

Taking all systems as a whole, to date around 30 external certification audits have been carried out in countries in Central Africa for around 15 companies. In the medium term it can be assumed that around 4.2 million hectares will be certified under either the FSC or PAFC labels. This, therefore, is still some way off the objective set by the Interafrican Forest Industries Association (IFIA) for certification of 10 million hectares by 2012.

The level of involvement on the part of Equatorial Guinea, CAR and DRC in these developments is still low but this level is likely to rise. It remains the case, nonetheless, that certification of tropical forests is still low at international level with only 10% of global forest surface area certified and with the forests in Central Africa still only representing a very low proportion of this figure.

Difficulties specific to certification in the Congo Basin

Restrictions specific to the sub-region

Reviews of forest codes in all the countries in the Congo Basin between 1990 and 2000 introduced the requirement to draw up sustainable management plans for forests before logging starts. This new detailed requirement for forest management is the prerequisite for any form of certification since certification must abide by national regulations. Yet although these forest regulations are relatively similar in all countries in Central Africa – thus creating little discrimination – they vary greatly from those applied in other tropical forest basins. For example, logging companies established in Brazil merely have to deal with management by surface area, followed by meticulous logging inventories which significantly reduces management costs in comparison with Central Africa. Certifications, therefore, cover very different situations in Africa and South America, a scenario that is due primarily to differences in national regulations.

These differences become clear when it comes to setting national benchmarks based on international certification systems. No national benchmark has been set as yet in Central Africa by the FSC or the PAFC: audits are only possible using reference systems defined specifically by accredited offices on the basis of international or sub-regional benchmarks. There again, this work to draw up specific C&I represents a cost that does not exist in other countries covered by the FSC or PEFC. This complicates audits and causes concern for the logging companies being audited, who fear to be assessed against standards that are unclear and which vary from one accredited office to another.

Difficulty in taking account of social aspects

The poor focus on populations within current certification systems is evidenced, above all, by the fact that local social and economic considerations come relatively low down the pecking order (Pokorny & Adams, 2003). The work of the ATO/ITTO unfortunately underscores this trend: whilst the principles for the sustained production of goods/services and ongoing environmental measures are binding, the principle of socio-economic contribution to the welfare of rural populations is conditioned by "the importance and impact of the forest operation" (ATO/ITTO, 2003). Thus, as can be seen, for example, in the application of specifications in Cameroon, loggers only need to prove a low level of timber production in order to gain exemption from any socio-economic obligation towards rural populations. However, it is precisely the implementation of such 'social projects' that are, in the opinion of the communities, an essential element of sustainable forest management (Lescuyer, 2007).

In theory and in practice, then, the C&I drawn up by large institutions do not accurately reflect the needs of rural populations. As a result, certified forests have a marginal impact on local development (Eba'a Atyi & Simula, 2002). In turn, the low level of participation by communities in defining and applying the C&I for sustainable management undoubtedly goes some way to explaining the limited number of certified forests in Central Africa.

From a more general perspective, the respective roles of the State and logging concessions in the development of local communities need to be clarified further. By way of reminder, logging fees have increased significantly in recent years and some of this financial income is, in principle, intended for local development. In practice, only a relatively small proportion reaches village communities and they expect logging companies, especially if they manage certified logging operations, to plug the gaps left by shortcomings on the part of the State.

A market instrument or a force for public action?

Alongside the development of certification systems geared towards private markets in the West, countries in the Congo Basin are, via the FLEGT process, starting to define criteria for legality. Cameroon has already signed a Voluntary Partnership Agreement with the European Union which, in the long term, will guarantee that Cameroon exports forest products to Europe that were logged in accordance with national regulations. This process is being launched by the Cameroon administration, primarily with support from German Development Cooperation. It does not aim to produce a reputable label for private markets, but is primarily focused on supplying public European markets with tropical timber from legal sources.

This overlap of private systems for certification and public ones guaranteeing legality is currently in disarray, undoubtedly because it combines two approaches with very different philosophies. On the one hand, the FLEGT legalisation process is a public action instrument that applies to exporting companies and is limited to compliance with legality alone as defined in the national framework. On the other, FSC and PAFC certification is one way of encouraging private Western markets to place store in SFM. One of the challenges over coming years will be to combine these different methods of legalisation and certification.

Double standards applied by some African countries

Demand for raw materials in emerging Asian countries has resulted in the meant that more and more Asian logging companies are present in some countries in the Congo Basin. Analysis of timber export statistics for Gabon in 2005, for example, reveals that almost two thirds of exports went to Asia. A large proportion of this timber is logged in concessions obtained and managed by national Asian companies of all sizes. None of these concessions has an approved management plan and the holders do not seem in any way inclined to manage their forests in accordance with SFM concepts and even less to obtain any kind of certification.

The laxity of the African states concerned in the face of this systematic plundering of their forests contrasts sharply with their strict policy on European logging companies.

Moreover, the European Union is leading a spirited action to push European logging companies active in the Congo Basin along the difficult path of SFM. Yet the EU allows African timber processed in Asia but logged in Africa without any compliance with SFM regulations, onto its market. This lack of coherence between policies distorts trade and, in the long term, makes establishing certification processes in the Congo Basin extremely difficult.

What future for certification?

In somewhat simple terms, the difficulties in establishing certification in the Congo Basin can be put down to, on the one hand, features that are specific to the management plans and C&I and, on the other, the strategy of implementing the main certification systems at local level.

The management plans and C&I were essentially drawn up by forest engineers and conservation biologists and probably did not take sufficient account of the expectations of loggers. As a result, the documents are highly technical, costs are high as regards implementation, application and monitoring and focus too heavily on issues associated with timber production and preserving biodiversity at the expense of social aspects. Trials supported by forest administrations, international NGOs and donors are underway or being planned by the ATIBT with a view to resolving these problems as far as possible, extending SFM efforts to SMEs and ensuring much greater benefits for local populations.

The FSC and PAFC implementation strategy lacks precision. The drafting of national benchmarks in particular has run into major delays, which complicates audits and makes them more expensive. This work should be completed by the end of 2008 at the latest.

Finally, it must be hoped that the countries of the Congo Basin and the European Union can harmonise and apply a more coherent policy as regards the introduction of SFM in general and certification in particular.

If all of these conditions are met, it is feasible that certification will be extended gradually and that a relatively accurate estimate would suggest that the level of certification will have reached approximately 20% within the next 10 years.

MARKETS IN NON-TIMBER FOREST PRODUCTS IN THE PROVINCES OF EQUATEUR AND BANDUNDU: PRESENTATION ON A FIELD SURVEY

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Although the forests of the DRC are rich in biodiversity, many of the resources they provide are not used to their full potential: this is certainly true of non-timber forest products (NTFP), for example. In this article, the terms "non-timber forest products" refers to nuts, leaves, fruits, bark, fuel wood, mushrooms, cane, bush meat, caterpillars and palm sap in particular and, in general, all products which can be harvested in compliance with the principles of sustainable management and non-extractive use of forests. These are generally subsistence products used by populations who depend on the forests and which, in addition to providing food and having economic potential, are also of social, cultural or spiritual significance. For instance, in many regions of Africa, palm wine has been used for centuries in local communities' social customs, while kola nuts are extremely important in traditional ceremonies, particularly weddings. In view of the large areas of forest in the DRC, most of the country's population are reliant on NTFP for their survival. For example, Kaimowitz and Starver (2004) highlighted the importance of bush meat, "*fumbwa*[23]" (*Gnetum africanum and Gnetum buchholzianum*), palm wine, safou[24] (*Dacryodes edulis*) and fuel wood.

This article is based on a study conducted in 2005[25] to provide a clearer understanding of NTFP and their role in household subsistence strategies, highlight marketing difficulties and make recommendations for improved performance of NTFP markets in the DRC. The study showed that NTFP are an important source of income for populations as well as being vital to their subsistence and that they therefore reduce poverty in the DRC.

Format of the study

The study was conducted in the provinces of Equateur and Bandundu on 193 households (including Bantus and Pygmies) in eight villages, 212 traders on eight markets and five airline companies. The villages were selected on account of their access to the relevant province's key markets, the availability of NTFP and the presence of Bantus and Pygmies. In each village, the Chief helped to compile a list of all households and these were then counted; 25% of these households were then invited to complete an interview. Markets were selected on the basis of their role in gathering and distributing NTFP, their accessibility and how they attracted rural communities and populations from urban and semi-urban areas. In each market, the traders were chosen at random based on their location within the market. Having explained the purpose of the study, we handed out the various questionnaires to those wanting to work with us. Four questionnaires on subsistence methods, use of NTFP and trade were compiled and handed out to the relevant respondents.

Results

The main NTFP sold are caterpillars, mushrooms, fumbwa, palm wine, wood charcoal and Marantaceae leaves. The local population also cited over 100 names of medicinal plants and 85% of households said that they used medicinal plants to treat common diseases.

In the Equateur province, households which sold six NTFP (Marantaceae leaves, caterpillars, mushrooms, wood charcoal, fumbwa and palm wine) had an average monthly income of USD 84, which is equivalent to the salary earned by a civil servant (USD 80). In Bandundu, trade in the same products generated income of USD 40 a month. There is a significant difference between the prices and income received by Pygmies and Bantus, Pygmies' income being lower than that of Bantus (USD 18 a month as compared with USD 33 for the sale of the same NTFP). People living in rural communities have to overcome several obstacles to sell their agricultural products and NTFP: long distances, the fact that their goods are perishable, high transportation costs and informal taxes payable to the police and soldiers when selling NTFP.

23. Small wild leaves used in cooking
24. Fruit found in tropical and equatorial Africa

25. Ndoye, O. and Awono, A. (2005). The markets of Non-Timber Forest Products in the provinces of Equateur and Bandundu, Unedited report by CIFOR, Cameroon, 56 pp.

In Equateur, traders derived the majority of their profits from wood charcoal, palm wine and fumbwa, which generated an average monthly income of USD 216, USD 166 and USD 131 respectively. These profits are higher than the average salary of USD 50-70 earned by a secondary-school teacher. Traders exporting fumbwa to Kinshasa earned an average monthly salary of USD 1,352 in Equateur (surprising as it may seem) and USD 270 in Bandundu, which is more than that earned by a doctor (USD 190-250).

Men and women perform different tasks, with some trades dominated by men and other by women. Exporters are better off than other players on the fumbwa market but have to overcome several difficulties, such as a lack of capital, fewer commercial outlets, the fact that NTFP are perishable, high transportation costs, non-availability of NTFP and informal taxes. Traders' margins are affected by having to pay informal taxes to the police and soldiers and these costs are then passed on to rural producers (lower prices) and consumers (higher prices) alike.

Recommendations

Based on the findings of the study, it is clear that several measures and policies can be put in place to enable NTFP to reduce poverty and improve subsistence in the Democratic Republic of Congo. These include:

- reducing or eliminating informal taxes: such taxes jeopardise the wellbeing of those involved in trading NTFP. Decision-makers in the DRC urgently need to reduce or eliminate this irksome aspect of the trade in NTFP;
- reducing transportation costs: roads linking the various provinces of the DRC to Kinshasa are few and those that do exist are in a poor state of repair – this drives up transportation costs. Traders exporting fumbwa to Kinshasa use aeroplanes but receive no compensation if airlines cancel their flights and products go bad as a result. Decision-makers should enforce the contractual conditions between traders and airlines when perishable NTFP are not transported to their destination due to a failure by the airline;
- payment of official taxes to the government (and municipal) budget: market players must pay official taxes before being allowed to sell forest products at markets. The municipal authorities should therefore use a proportion of this revenue to improve market infrastructure;
- combating discrimination against Pygmies: a strategy is needed to empower Pygmies to ensure that they are paid higher prices for their products (although not at the expense of the Bantus);
- growing the main NTFP closer to home: farmers travel long distances to harvest fumbwa since demand in Kinshasa is high. Policies to produce fumbwa and other major NTFP on farms should be a key objective in the DRC. Securing ownership rights over land and forest resources is an important step and would encourage rural communities to invest in tree planting and to use more advanced techniques to grow, harvest, process and market NTFP;
- support for organising and marketing NTFP in rural communities: for example, by encouraging high-performing small NTFP businesses, in particular those requiring large numbers of staff. It is important to promote local initiatives and institutional systems to harvest and market NTFP in groups and via cooperatives. This would maximise profit from NTFP and would ensure that it is distributed fairly to improve communities' subsistence;
- political dialogue with the government and donors: more investment is needed in processing infrastructure and technologies. The study's findings should be made available to decision-makers and donors to make them aware of just how important forest products are to the subsistence of rural communities and of the need to include forest products in strategic government programmes to reduce poverty.

DECLARATION OF BRUSSELS ON SUSTAINABLE FOREST MANAGEMENT IN THE DEMOCRATIC REPUBLIC OF CONGO BRUSSELS, EGMONT PALACE, 27 FEBRUARY 2007

The Conference on sustainable forest management in the DRC, whose official opening was honoured by the presence of HRH Prince Philippe of Belgium, took place at the Egmont Palace in Brussels on 26 and 27 February 2007 under the aegis of and with support from the World Bank, the European Commission, the British Development for Cooperation, the French Cooperation for Development, the Belgian Cooperation for Development and the government of the Democratic Republic of Congo.

- The Government of the Democratic Republic of Congo, represented by HE Mr. Didace Pembe Bokiaga, Minister for the Environment, and

- The Belgian Government, represented by HE Mr. Armand De Decker, Minister of Cooperation for Development, initiator of the Conference;

put forward the following conclusions concerning sustainable forest management in the DRC.

The Conference, following in a direct line from the forums on forests in the DRC held in Kinshasa in 2004 and 2006, in view of the presentation of initiatives currently in progress, also emphasised the need to focus even more on innovative management and financing systems for forest resources.

The Conference gave rise to many rich and productive presentations, exchanges and discussions which brought to light the following points:

- The forests in the DRC are a shared national heritage of inestimable value for both the people of Congo and for humanity as a whole. They need to be managed with the aim of reducing poverty and protecting the environment. This constitutes a great responsibility for the Congolese government, the towns and cities of Congo and the international community alike.

- The maintenance of the biodiversity of Congo's forests, their genetic potential and their contribution to the Earth's environmental balance are also global issues which go far beyond the boundaries of Congo itself. They highlight the relevance of innovative systems addressed during the conference and the need for mobilisation on a regional and international scale.

- In the past, the management of forests, like that of other natural resources focused on short-term advantages while ignoring social equality and the durability of ecosystems and resources. Local and indigenous populations were marginalised. Despite the efforts involved, biodiversity and natural spaces are continuing to deteriorate.

- Today, the peace and democracy re-established in the DRC present unique opportunities but a number of risks as well. The forest can generate new jobs and revenue for the people of Congo, serve as an example to improve governance in other sectors, restore the DRC's image on the international scene and underpin innovative partnerships for environmental protection throughout the world.

- However, these collective benefits cannot materialise as long as former practices continue. The people of Congo and the global environment are still in danger of being the losers. To reverse this trend, there needs to be a radical change in policies and governance.

- Any policy on the exploitation of wood needs to promote good professional practices and adhere to a modern principle of social justice, respect laws and be socially, environmentally and economically sustainable.

- At the same time, it is vital to stimulate innovative systems for managing and financing forests, which will foster local development and transform the protection of forests into an attractive option for the DRC. This opportunity exists today and needs to be grasped.

- It is necessary for all stakeholders to join forces in achieving these shared goals. Given the complexity of the stakes at issue, a single party cannot meet the challenge alone. Multi-player partnerships are now more crucial than ever, and international involvement is a vital factor.

- Since 2002, President Joseph Kabila Kabange has focused on establishing better governance in this sector. A new Forest Code and a Priority Reform Agenda have been adopted. These have achieved some progress in practical terms but have also met with a number of setbacks. Their application must be continued, their implementation speeded up and any errors corrected. However, we can take heart from the fact that a large number of non-valid forest concessions have been reviewed.

The Conference makes use of this occasion to congratulate the Congolese Government, associations and people for all the efforts accomplished in a difficult situation and recommends continuing the important legislative work currently under way and the implementation of the Priority Reform Agenda, in particular through:

- the simultaneous implementation of the three pillars of the Forest Code: the reform of industrial logging, decentralisation through community-based forest governance and the safeguarding of biodiversity and environmental services;

- the maintenance of the moratorium on the allocation of new concessions until the accomplishment of the conditions laid down in the Presidential Decree of 2005. The penalties stipulated by law must be applied to crack down on any infringements of this moratorium;

- the completion of the legal review of former concessions by rigorously applying the requirements of the 2005 Decree and cancelling non-valid concessions in accordance with this Decree;

- the maintenance of the traditional rights of local populations in all the forests. The initiation of a participative zoning effort on a national level. The introduction of local information drives to keep people informed of every new decision on the use of forests, according to the principle of prior, free and informed consent;

- the reinforcement of forestry control in view of stamping out illegal exploitation and improving the economic climate in order to welcome and assist companies that are responsible from the ethical, social, fiscal and environmental point of view and offer them a framework favourable to obtaining independent certification;

- the piloting of numerous community-based management initiatives. These pilot experiments should be carried out in damaged areas as well as in those that are virtually intact, where institutional measures that generate appropriate revenues for the inhabitants while guaranteeing the preservation of the ecosystem have not yet been invented;

- the reinforcement of the power of public institutions and civil organisations to fulfil their vital roles of control, creating awareness and monitoring;

- the promotion of scientific research to provide material, as reliable and as validated as possible, for political decisions on the management of forest ecosystems. There are a number of top-priority areas of research. These include developing further knowledge on forest biodiversity as well as the socio-economic and cultural aspects of these zones; understanding and taking account of customary rules and traditional practices; studying the dynamics involved in carbon sequestration; mapping out the plant life and improving knowledge about the technical characteristics and opportunities of forest products;

- the involvement of civil society, the provision of information to the public in all its forms and the participation of independent observers in monitoring resources and following up reforms;

- support for implementing the traceability process for forest products in view of their legality (FLEGT: Forest Law Enforcement, Governance and Trade) and certification.

Above and beyond the pursuit and reinforcement of these actions, the Conference wishes to put the accent on the urgent need to implement certain actions such as:

- the protection of the most threatened species and ecosystems, the rehabilitation of national parks and World Heritage Sites and the identification of new protected areas, while fostering participatory approaches and the respect of traditional rights, and guaranteeing that no forest concessions will be allocated or confirmed in the buffer zones of protected areas;

- the recognition of traditional forest land management methods and the establishment of their legal security by local communities, the support for small family or community forest-based businesses and artisanal loggers, in view of helping them to work their way out of poverty without exhausting the natural resources on which they depend.

In these areas, the Conference marks it support for new approaches whereby the Government can delegate land management to local communities or private operators while continuing to fulfil its duty as a guarantor of public wellbeing.

The Conference stresses the priority that should be given to reactivating the training programme for forestry engineers and other forestry technicians which has been dormant for two decades, so as to ensure the sustainable management of the DRC's forests.

The Conference acknowledges the innovative character of several initiatives such as the creation of carbon sinks through afforestation and reforestation, and avoiding deforestation; creation of a fiduciary fund for conservation concessions and the set-up of a multi-donor trust fund for the forest sector, together with initiatives in the private finance sector, positioning the DRC as a supplier of environmental services and which aim to set up market mechanisms to remunerate these services.

The Conference notes:

- the foregone revenues declared by the DRC Government, assessed at USD 1.5 billion due to restrictions on logging activities;

- the commitment of the Government of the Kingdom of Belgium, in partnership with other countries of the European Union, to provide technical assistance to the Government of the DRC, including in the following areas: the ongoing conversion process, the set-up of a national traceability system of forest products, the strengthening of the national Administrations in terms of forestry control and the implementation of the FLEGT process, and support in various forms to the Congolese Institute for the Conservation of Nature through the creation of a fiduciary fund for the conservation of nature.

The Conference recognises the urgent need to set up alternative mechanisms for financing actions in favour of sustainable forest management in the DRC, given that current innovative mechanisms will only be set in motion in the medium and long term.

The Conference considers that a meeting to follow up its conclusions between the Conference organisers, including the Democratic Republic of Congo, together with the other active or interested donors concerned by this important issue could be held at the upcoming Spring Meetings of the World Bank in Washington.

The Conference recommends that the important issue of sustainable forest management in the DRC should be included on the agenda for the upcoming G8 Summit.

The Conference stresses the importance of creating an institutional and legal framework favourable to establishing partnerships that would involve civil society, the private sector, research institutions and State organisations, and which could lead to the emergence of mechanisms based on shared benefits and mutual obligations.

The Conference encourages the DRC, the investors concerned and the general public to make a commitment to such partnerships. It recommends that public development agencies assist the DRC and the investors concerned in making contracts legally secure and in facilitating their implementation in the field. It also recommends that this issue be brought to the attention of the very highest Congolese and world bodies engaged in the fight against poverty, governance and environmental protection.

The Conference thanks the Kingdom of Belgium and the Belgian Cooperation for Development for organising the Conference and for the actions already set in motion in favour of sustainable forest management in the DRC, in partnership with the Democratic Republic of Congo, the World Bank, the FAO, UNEP, UNESCO, the European Union, the French Cooperation, the German Cooperation, the British Cooperation, the African Wildlife Foundation, Conservation International, Greenpeace, the Rainforest Foundation, the SNV, the Wildlife Conservation Society, the WWF and the Congolese Civilian Society.

The Conference encourages the DRC to unremittingly pursue the efforts regarding governance that it is undertaking as part of the Priority Agenda, and encourages partners in the public sector to help the DRC in a national programme for forests and nature conservation, in accordance with the Declaration of Paris on the harmonisation of aid and in line with the Millennium Development Goals.

Done at Brussels, 27 February 2007

The Conference

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