



3RD REPORT OF THE NATIONAL GROUP ON TROPICAL FORESTS

Tropical Forests: taking stock and new challenges

What guidance
for French stakeholders?

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This third report by the National Group on Tropical Forests has been edited and published jointly by the ministry of foreign affairs, the ministry of ecology, sustainable development and energy, the ministry of agriculture, agrofood and forestry and the French global environment facility

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PREFACE

The management and future of tropical forests raises issues that tie in directly with French forest policy. Backed by long and diverse experience in forest management and spatial planning, it is France's intention to take operational action to promote the sustainable management of tropical forest ecosystems. The sustainable management of overseas forests is in this way a major goal, combined with the desire to produce timber and procure environmental services and protect their exceptional biodiversity. Lastly, France has an important role in logging and in the importing and processing of tropical timber. It is supportive of stakeholders' action for sustainable management of forests and a responsible and legally compliant timber trade.

Eric ALLAIN

Head of the General Directorate of Agricultural, Agrofood and Territorial Policies at the
Ministry of agriculture, agrofood and forestry

§

Forests are a key component of the landscapes of France's overseas territories since they are home to natural formations offering great variety and a wealth of biodiversity, timber resources and amenities for the local population and tourists, placing France among the leading tropical forest countries of the European Union with 9.3 million hectares.

The forest policy for France's overseas territories, combining as it does economic development, research and innovation and action to protect the environment, must be pursued in order to respond to the threats and the novel challenges of a markedly changed international context.

This third GNFT report provides an opportunity to raise the awareness of the widest possible audience to major efforts that need to be further intensified and supported by the entire community given that this a matter in the international general interest. Those efforts are founded in part on the interest taken by the European Union in the environments concerned and in the programmes conducted, most notably in the area of knowledge of natural environments and the sustainable development of tropical forest cover.

Vincent BOUVIER

General Delegate for French Overseas Territories, Ministry of the overseas Territories

§

Since its creation, following the decisions taken in Rio in 1992, France, working through the FGEF, the French Fund for the Global Environment, has devoted substantial effort to protecting and adding value to tropical forests, which represent a major issue for the global environment. This is so because they play a key role in regulating climatic cycles and hold a major share of natural resources. They are also an indispensable factor in soil protection. Lastly, tropical forests are sources of life and ensure the survival of a large percentage of the human population, acting as a unique vehicle for living resources. That is why tropical forests are and will continue to be at the heart of the strategy implemented by FGEF in support of multilateral agreements on the environment.

François Xavier DUPORGE

General Secretary, French Global Environment Facility

§

With this report, the GNFT is continuing its exceptional work in formulating a common doctrine for French actors in the tropical forest sphere, providing a range of points of view on an area in which confusion and polemic frequently seems endemic. This exercise, which is unique of its kind, is thus a valuable contribution which provides a basis for the international action of France and the European Union in the area of diplomacy and development aid, so true is it that tropical forests are pivotal to a multiplicity of global issues and claims to sovereignty and development. That contribution is also, and above all, a way of stimulating discussion and remaining attentive to the concerns of our international partners.

Jean-Baptiste MATTEI

Head of the General Directorate for Globalisation, Development and Partnerships
at the Ministry of foreign Affairs

§

This report underscores the relevance of taking stock of the actions undertaken since the first White Paper, and the necessity of working to update the issues and outlook for the years to come. Biodiversity, water, energy, climate, sustainable production and consumption, tropical forests: all are at the heart of the issues addressed by our Ministry. This approach also supplements the policies in place, especially within the framework of the 2011-2020 National Strategy for Biodiversity. This has as its goal ensuring that biodiversity is a driver for development and regional aid in French overseas territories and promotes an integrated model for the conservation and sustainable management of tropical forests overseas.

Jean-Marc MICHEL

Head of the General Directorate for Spatial Planning, Housing and Nature, Ministry of Ecology, Sustainable Development and Energy

§

Ten years on from the creation of the GNFT, this report demonstrates once again the relevance and the quality of the work done by this Group. Beginning after the Conference on Tropical Forests of January 2012, the reflections of the French actors have continued into a constructive and intensive dialogue leading to the identification of a number of key messages. On the occasion of the Rio+20 Conference, France must forcefully convey those messages, which are in total accord with the themes of global governance, sustainable development and the green economy. Conversely, the success of the Rio+20 Conference, and in particular the setting up of a dedicated United Nations agency for the environment, will be a major milestone on the road to the goal of forest conservation and sustainable management.

Jean-Pierre THÉBAULT

French ambassador for the environment

ACKNOWLEDGEMENTS

Drafted by the National Group on Tropical Forests (GNFT) between February and May 2012, this publication is offered as a report on the proceedings of the national conference on tropical forests held on 11-12 January 2012 in Paris and a taking stock of the issues and the necessary actions. Reflecting the plurality of the past experience, centres of interest and outlook of the French stakeholders, the report seeks to establish a synthesis around which they can come together and combine their efforts. The report does not therefore reflect the positions of the experts or institutions that have contributed to its drafting. Specifically, it does not define an official position on the part of the French government with regard to the topics discussed.

The publication of the report has been coordinated by an editorial team led by Jean Pierre Thébault, French ambassador for the environment. The members of the team were: Guillaume Choumert, Ministry with responsibility for ecology (DAIE), Christophe Du Castel, Secretariat of the French Global Environment Facility, Stéphane Guéneau, CIRAD, Thierry Liabastre, French Development Agency (AFD), Cyril Loisel, Ministry of Foreign Affairs (DGM), Jack Plaisir, General Delegation for French overseas territories, Jonathan Saulnier, Ministry with responsibility for forests (DGPAAT) and Jean Paul Torre, Ministry with responsibility for ecology (DGALN).

The team wishes particularly to thank its partners involved in the organisation of the Conference on 11-12 January 2012: the Ministries of Foreign Affairs, Forests, Ecology and Overseas Territories, the French Global Environment Facility (FGEF), the French Development Agency (AFD), the Centre for international cooperation on agronomic research for development (CIRAD), the Group For Research and Technology Exchanges (GRET), the International Association of Forest Municipalities (COFOR International), the International Tropical Timber Technical Association (ATIBT), the Public Interest Grouping on Forest Ecosystems (ECOFOR), the Paris Institute of Technology for Life, Food and Environmental Sciences (AgroParisTech), the Institute for Sustainable Development and International Relations (IDDRI) and the French National Forest Board (ONF).

The editorial teams wishes to express its sincere gratitude to the following for their contributions to the Conference, and to the drafting and editing of this report:

Frédéric Amiel	Adeline Giraud	Cléto Ndikumagenge
Jacques Andrieu	Sylvie Gourlet Fleury	Valérie Oktar
Sylvain Angerand	Eglantine Goux	Isabelle Ouillon
Viviane Appora	Anne Gouyon	Elisabeth Pagnac-Farbiaz
Jean Bakouma	Elie Hakizumwami	Boris Patentreger
Denis Bavard	Olivier Hamel	Béatrice Paviot
Vincent Béligné	Patrick Houdry	Alain Pénelon
Christophe Besacier	Paul-Emmanuel Huet	Martin Perrier
Alain Billand	Antonio Carlos Hummel	Jean-Luc Peyron
Pascal Blanquet	Karine Jacquemart	Jacques Plan
Bérengère Blin	Marie Jaudet	Michel Pré
Eric Boilley	Marcel Jouve	Philippe Puydarrieux
Véronique Boussou	Pierre Kaboré	Noeline Raondry-Rakotoarisoa
Karine Brulé	Jochen Krimphoff	Valérie Reboud
John Bruneval	Thanya Lahlou	Elise Rebut
Gérard Buttoud	Jérôme Laporte	Ralph Ridder
Frédéric Castell	Cédric Lardeux	Bernard Riéra
Christian Castellanet	Jean-Patrick Le Duc	Simon Rietbergen
Anne Sophie Cerisola	Marine Leblanc	Stéphane Ringuet
Jean-Aubéric Charles	Cyrille Lefeuve	Silvia Ritossa
Anne Chetaille	Valérie Lemaire	Catherine Rivoal
Denis Childs	Elen Lemaitre Curri	Jean Marc Roda
Karen Colin de Verdier	Tiphaine Lemenager	Jean Baptiste Roelens
Arnaud Collin	Anca Leroy	José Ruiz
David Combaz	Maya Leroy	Claude Rupé
Constance Corbier-Bathaux	Guillaume Lescuyer	Hans Schipulle
Pierre Couteron	Denis Loyer	Kristian Schmidt
Doug Cress	Benoit Martimort-Asso	Sujiro Seam
Bernard Cressens	Julien Massetti	Thomas Sembres
Remi d'Annunzio	Bernard Martin	Caroline Serre
Marine de Carné	Philippe Mayaux	Pierre Sigaud
Ariane de Dominicis	Frédéric Meignotte	Markku Simula
Philippe Deletain	Eudeline Melet	Jean-Marc Sinnassamy
Benoît Demarquez	Delphine Ménage	Plinio Sist
Emilien Dubiez	Sandrine Ménard	Olivier Souleres
Guillaume Ernst	Valérie Merckx	Daisy Tarrier
Justin Eyaan	Benoît Mertens	Mylène Testut-Neves
Marc Fagot	Philippe Meunier	Rémy Tirouttouvarayane
Yann François	Edouard Michel	Sébastien Treyer
Jérôme Frignet	Murièle Millot	Murielle Trouillet
Pierre-Louis Frison	Sébastien Moncorps	Nicolas Tubbs
François Gave	Jacques Moineville	Marie Vallée
Laurent Gazull	Fabien Monteils	Nathalie Van Vliet
Fabien Girard	Samuel N'Guiffo	Aurore Viard-Crétat

Possessing very extensive experience of this domain as he does, Christian Barthod of the General Council on Sustainable Development has provided a valuable contribution in drafting a conclusion that identifies the common characteristics, areas of adjustment and emerging priorities in relation to previous GNFT reports. Finally, and above all, we wish to extend particular thanks to Stéphane Guéneau of CIRAD, who was responsible for the major part of the work both for the organisation of the Conference and the drafting of this report, while at the same time ensuring proper continuity with the GNFT's previous efforts and liaising with numerous French stakeholders. His personal commitment to the project, his understanding of the issues and the

diversity of the points of view involved have made it possible to update and extend the consensus between French stakeholders on tropical forest issues.

At the present time the National Group on Tropical Forests has over three hundred members. The following organisations are represented and contribute to its work.

- › **Associations and foundations for the environment and/or solidarity:** Agronomists and Veterinarians Without Borders, Aide et Action pour la Paix, Cameroon Ecology, CEDEN (DRC), CERAD (Cameroon), COFOR International, IUCN French Committee, Conservation International, Envol Vert, France Nature Environnement, Chirac Foundation, International Foundation for Wildlife Management (IGF), Nicolas Hulot Foundation, Foundation for Research on Biodiversity, Yves Rocher Foundation, Forest Monitor (DRC), FSC France, FTTP (Cameroon), Good Planet, Greenpeace, GRET, Inter-environnement Wallonie, IRAM, Leadership pour l'environnement et le développement durable (Chad), Les Amis de la Terre, OXFAM, PEFC France, Planète Urgence, Plante & Planète, Pro-Natura, Réseau Action Climat France (RAC-F), Royal Society for the Protection of Birds, Sherpa, Silva, Terres Sud 21, The Forest Trust, TRAFFIC, WWF.
- › **Higher education and research:** AgroParisTech, CIFOR, CIRAD, CNRS, École Centrale, EHESS, FCBA, GIP-ECOFOR, IDDRI, INRA, European Forest Institute, IRD, IRSTEA, MNHN, University of Brasilia, University of Gembloux, University of Louvain, VITO;
- › **Private companies and their trade federations:** Althelia, ATIBT, Astrium, Be citizen, Bio intelligence service, Bluenext, BNP Paribas, Bois des Trois Ports, Bolloré, Brico-dépôt, Bureau Veritas, Confederation of European Paper Industries, Confédération française de l'industrie des papiers, cartons et celluloses, CDC Climat Recherche, CID bois, Dalkia, E. Leclerc, Fédération de l'industrie bois-construction, Fédération des magasins de bricolage, Fédération nationale du bois, Forest privée de France, France bois forêts, IGN FI, Inter-African Forest Industries Association, Le Commerce du Bois, Moringa, ONF-International, Rougier, Saint-Gobain, SGS, Syndicat national des constructeurs de charpentes en bois lamellé-collé, Union de la coopération forestière française, Union des industries du bois, Union des industries des panneaux de process, Veolia;
- › **Ministries and public bodies: French Environment and Energy Management Agency (ADEME), French Development Agency (AFD), Bergerie nationale, Centre for Strategic Analysis, Economic, Social and Environmental Council, General Council on Food, Agriculture and Rural Spaces, General Council on the Environment and Sustainable Development, General Delegation**

for French Overseas Territories, Ministry of Agriculture, Agrofood and Forestry, Ministry of Foreign Affairs, Ministry of Ecology, Sustainable Development and Energy, Ministry of Finance and Industry, French National Forest Board (ONF), French National Parks Department, Secretariat of the French Global Environment Facility, General Secretariat for European Affairs;

- › **International organisations:** World Bank, United Nations Economic Commission for Europe, European Commission, Food and Agriculture Organization of the United Nations (FAO), Secretariat of the Global Environment Facility (GEF), Secretariat of the United Nations Forum on Forests, Sahara and Sahel Observatory, Plan Bleu, United Nations Environment Programme, United Nations Development Programme, Secretariat of the Convention on Biological Diversity, Executive Secretariat of the Central African Forest Commission (COMIFAC), United Nations Educational, Scientific and Cultural Organisation (UNESCO), International Union for Conservation of Nature.
- › **Representatives of local government bodies: Paris Town Hall, Fédération nationale des Communes forestières.**

Amazonian Horned Frog (*Ceratophrys cornuta*), Manu national reserve, Peruvian Amazonia.
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Baka woman, Central Africa
© Christian Chatelain

“Today we are faced with a challenge that calls for a shift in our thinking, so that humanity stops threatening its life-support system. We are called to assist the Earth to heal her wounds and in the process heal our own – indeed, to embrace the whole creation in all its diversity, beauty and wonder. This will happen if we see the need to revive our sense of belonging to a larger family of life, with which we have shared our evolutionary process. Recognizing that sustainable development, democracy and peace are indivisible is an idea whose time has come.”

(Extract from the Nobel Lecture delivered in Oslo on 10 December 2004)

Wangari Muta Maathai

Founder of the Green Belt Movement in Kenya

Congo Basin Roving Ambassador

Winner of the Nobel Prize for Peace in 2004 for her contribution to sustainable development, democracy and peace

1940-2011

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INTRODUCTION

The National Group on Tropical Forests (French abbreviation: GNFT) is an informal advisory body whose purpose is to debate French doctrine and policy stances with regard to tropical forests. Set up in April 2002 in the wake of the Sixth Conference of the Parties to the Convention on Biological Diversity in The Hague, commonly known as the “Ancient Forest Summit”, this Group is led jointly by representatives of the main concerned Ministries. The Group’s stakeholders are actors in the private sector (timber industries, retail, finance), environmental and development NGOs, representatives of consumer organisations and elected officials, government departments, government agencies and research centres.

The Group’s initial mandate was to “define a French action plan in favour of sustainability criteria for timber harvesting and against illegal logging” (government press release, 10 April 2002). Concretely, the Group was tasked to collect appraisal information, identify points subject to controversy and requirements for further information, and to put forward practical proposals for action on a number of issues: the state of forests, sustainable management, illegal logging and related trade activities, timber traceability, certification systems, French timber imports and environmental conditionality for public procurement.

Following an initial report entitled “Tropical forests: how can France contribute to their sustainable management?”, a second mandate adopted in the spring of 2003 refocused the Group’s work on France’s international policy on the sustainable management of tropical rainforests, without however ruling out other types of forest ecosystem or French policy with respect to tropical forests in its overseas territories.

In 2006 the National Group published a White Paper on tropical rainforests, which constitutes a reference for required policies to ensure the conservation and the sustainable management of tropical rainforests, in terms of government action, official development aid and private sector initiatives. It contains over a hundred recommendations on a range of key topics and reflects the consensus established within the GNFT following

several years of discussion among French stakeholders.

In 2007 and 2008, an ad-hoc group on tropical forests contributed to the work done by the French Grenelle consultation process on the environment, in operational committee no. 16, which led on to commitments 221 and 222 (see sidebar 1) and a recommendation to reconvene the National Group on Tropical Forests.

Sidebar 1 Commitments on tropical forests from the Grenelle consultation process

Commitment n° 221: French Presidency [of the European Union in 2008] to promote forest/biodiversity as one of the pillars of post-Kyoto measures. In this context, active support for the implementation of innovative financing mechanisms to avoid deforestation.

Commitment n° 222: illegal logging to be combated and alternatives to destructive logging practices to be developed through the management of forest areas. Particular attention is to be devoted to the Congo basin.

The National Group's remit was then updated once again. The mandate in force since 2009 provides for the broadening of the work of the Group to include issues linked to global warming and tropical dry forests. The Group's work is now structured by three themes, namely trade in forest products, avoiding deforestation and development aid in the forest-environment sector. Furthermore, the Group attaches particular importance to the activities of the Congo Basin Forest Partnership (CBFP).

In 2011, five years after the publication of the White Paper, the Group decided to assess the implementation of the White Paper's recommendations and to update its policy guidance on tropical forests taking into account new developments. To achieve this, the GNFT commissioned a study aimed at obtaining objective evaluation data on the state of application of the 2006 White Paper's practical recommendations. This study served as a basis for a second phase that involved the organisation of a conference of French stakeholders on the tropical forests in Paris on 11-12 January 2012.

The Conference, held under the high patronage of Alain Juppé, was organised by the ministries with responsibility for foreign affairs and forests and by the French Global Environment Facility (FGEF), in partnership with numerous GNFT actors. Under the title "Tropical forests: taking stock and new challenges. What guidance for French stakeholders?" this event attracted over 300 participants from various backgrounds: government departments, local government authorities, research and academia, civil society and the private sector, as well as a number of important

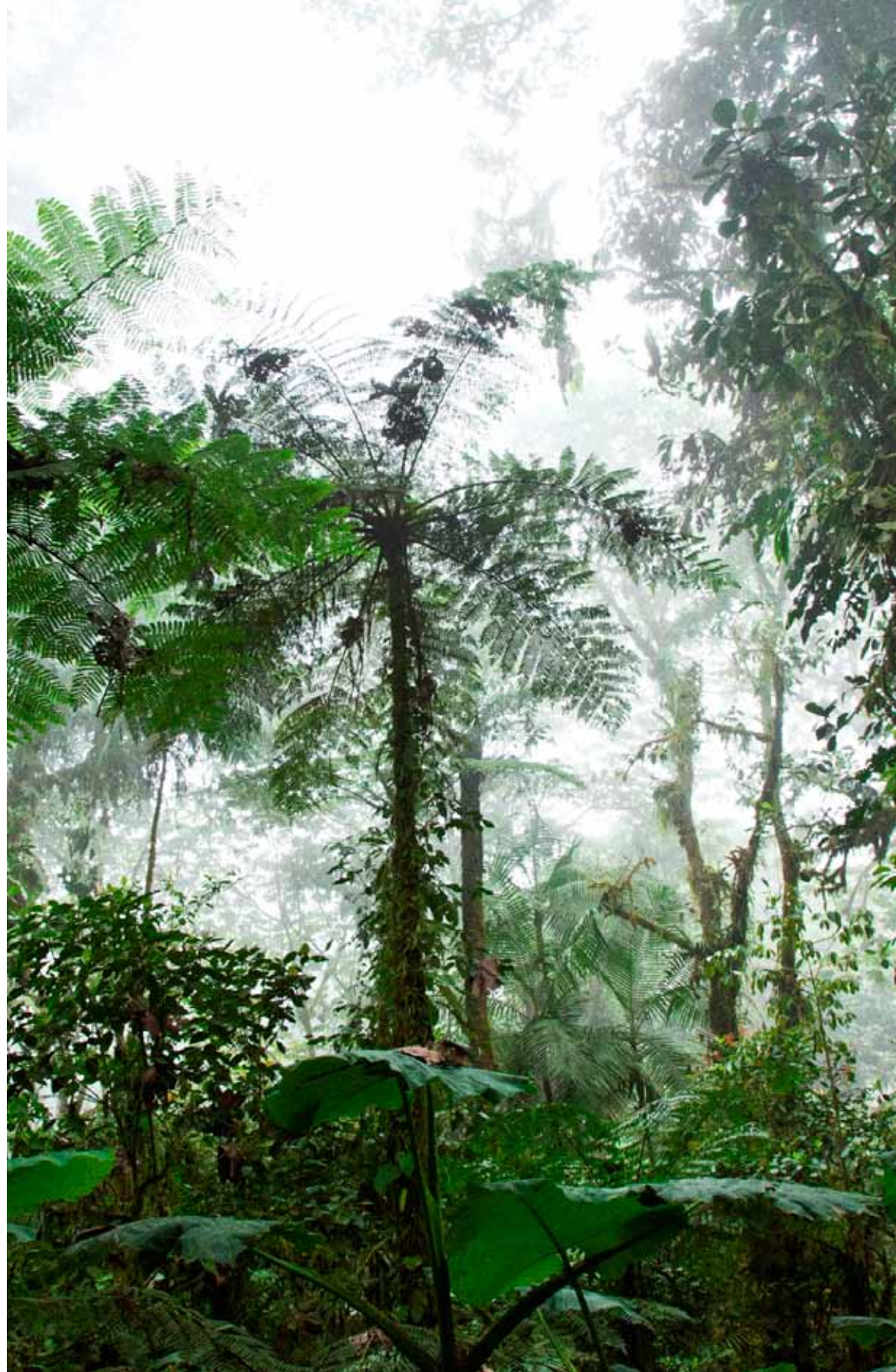
international observers. The objective was to stimulate constructive debate around the position of French actors in order to define new policy guidance for France to address the challenges confronting tropical forests overseas and in all tropical countries, taking account of all their dimensions: economic, social and environmental. This publication has been largely drafted on the basis of the proceedings of the Conference, on various recent sources, especially assessments conducted on AFD and FGEF programmes in Congo basin forests, and on further exchanges of views among GNFT members. Its ultimate goal is to update French stakeholders viewpoints on tropical forests and to draw up a new roadmap and French doctrine on tropical forests, especially in the run-up to the United Nations Conference on Sustainable Development in June 2012 (Rio+20).

In its first part, the report briefly recalls major tropical forests issues and goes on to review the main lines of action taken by French stakeholders with regard to tropical forests since the White Paper was issued in 2006. It presents the main themes and approaches of France's intervention in relation to tropical forests, along with the lessons that can be drawn from the implementation of the recommendations put forward in 2006.

Its second part is devoted to the outlook and policy directions proposed by the GNFT to guide French stakeholders' actions with respect to tropical forests over the next few years. This second part comprises six chapters corresponding to the themes of the six workshops of the Conference held in January 2012, plus an additional chapter on research issues and the improvement of the knowledge base.

Deforestation in the Western Andes, La Mana, Ecuador. © Jean-Christophe Pintaud, IRD.







CONTEXT

TROPICAL FOREST ISSUES AND ACTION TAKEN BY FRENCH STAKEHOLDERS

Cloud forest, Choco-Andean Corredor,
Maquipucuna Reserve, Ecuador

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A. TROPICAL FORESTS: CURRENT SITUATION AND MAIN ISSUES

Most contemporary authors refer to a fairly straightforward standard in discussing tropical forests: they are bounded by the tropics and contain a diverse range of biomes that can be placed in one of two broad categories: tropical rainforests or tropical dry forests.

The tropical rainforests, also variously referred to as dense humid forests, equatorial forests, moist forests, ombrophilic forests, hygrophilic or hydrophilic forests, are the closest to the equator and situated in climates where the dry season lasts less than three months and where there is at least 1,500 to 2,000 millimetres of rainfall a year (Bergonzini and Lanly, 2000). The canopy is dense and its height is typically 40 metres or more, leading to a virtual absence of light at ground level during the day. Such tropical forests are therefore essentially dense evergreen forests and their specific diversity is the world's highest on land.

Tropical dry forests are woodland formations that develop in regions where rain is less plentiful, and where annual precipitation is typically less than 1,500 millimetres, with a dry season lasting over three months.

Between very open tropical dry forests and very dense tropical rainforests there are a series of intermediate formations. Furthermore, these categories can be added to by making distinctions between particular types of formation such as high-altitude forests, mangroves and tree savanna. The latter, according to tree density and definitions at national level, may or may not be considered locally as forest ecosystems. Lastly, a distinction should be made between island forests and continental forests.

The present remit of the GNFT is to examine existing issues for the whole range of tropical forests, which reflects a major change from the previous work of the Group, which focused exclusively on tropical rainforests. This decision was motivated by inadequate attention to dry zones despite their remarkable ecological characteristics and the fact that they are at the heart

of crucial environmental and social issues, notably in terms of adaptation to climate change, rehabilitation of degraded spaces, supplies of energy-wood and other resources to local populations, and the conversion of forest land to agricultural use.

1. Extent and distribution of tropical forests

According to the FAO (2010), forests cover a little over four billion hectares worldwide, or nearly one third of the planet's emerged land area. The share of tropical forests in this total is 44% of global forest cover, the majority being in three major forests: the Amazon Basin, with a total of 800 million hectares, including 520 million in Brazil alone, the Congo Basin, with 300 million hectares, and Southeast Asia, which has some 240 million hectares, mainly in Indonesia and Malaysia (FAO/ITTO, 2011).

With 8.3 million hectares of tropical forests in its overseas territories, France is in the first rank of tropical forest countries in the European Union. There are significant differences between these French tropical forests and others in terms of political and socio-economic context. French overseas communities are present in all three major oceans and at various latitudes, and possess an exceptionally rich variety of natural habitats. Covering an area equivalent to 0.08% of total emerged land, they are home to more endemic higher plant species and vertebrates than the whole of continental Europe. They represent a third of all French forests, approximately half the carbon stock, and the majority of forest flora and fauna diversity. The major part of overseas tropical forest land is located in French Guiana, where forests cover 8 million hectares. With 98% of emerged land in the département covered by forests, French Guiana is the area with the highest proportion of forest cover in the world. According to IUCN, the French territorial département of Guiana has at least 98% of France's vertebrate fauna and 96% of its vascular plants.

2. Changes in forest cover

The net loss of tropical forest continues to be substantial despite a slowdown in deforestation

Every five years the FAO's Forestry Department publishes the Global Forest Resources Assessment. The most recent edition was issued in 2010 (FAO, 2010). This assessment involves an overview of net forest cover, including both gross losses in forest land due to deforestation and gains in forest from reforestation and natural forest expansion. The broad trend is a slowing of net deforestation¹, due both to a reduction of gross deforestation and an increase in planted areas.

(1) Gross deforestation is defined as the area or percentage of forest cleared over a given period. Net deforestation is the difference between gross deforestation and replanting, or in other terms, the net change in tree cover over the period.

A reduction in net deforestation has notably been observed in Indonesia and Brazil (cf. Table 1). Conversely, the pace of net deforestation (1) rate has accelerated in Australia, which is due in particular to the forest fires associated with drought. Other than in these headline countries, whose statistics relate to major land areas, it should be emphasised that a small group of African countries, although less frequently cited, have the world's highest rates of net deforestation, largely in dry zone forests, in Nigeria, Tanzania and Zimbabwe.

Tableau 1 The ten countries with the highest rates of net deforestation

Countries	Annual variation 1990-2000		Countries	Annual variation 2000-2010	
	1 000 ha/ year	%		1 000 ha/ year	%
Brazil	-2890	-0,51	Brazil	-2642	-0,49
Indonesia	-1914	-1,75	Australia	-562	-0,37
Sudan	-589	-0,80	Indonesia	-498	-0,51
Myanmar	-435	-1,17	Nigeria	-410	-3,67
Nigeria	-410	-2,68	Tanzania	-403	-1,13
Tanzania	-403	-1,02	Zimbabwe	-327	-1,88
Mexico	-354	-0,52	RDC	-311	-0,20
Zimbabwe	-327	-1,58	Myanmar	-310	-0,93
RDC	-311	-0,20	Bolivia	-290	-0,49
Argentina	-293	-0,88	Venezuela	-288	-0,60

Source : FAO, 2010

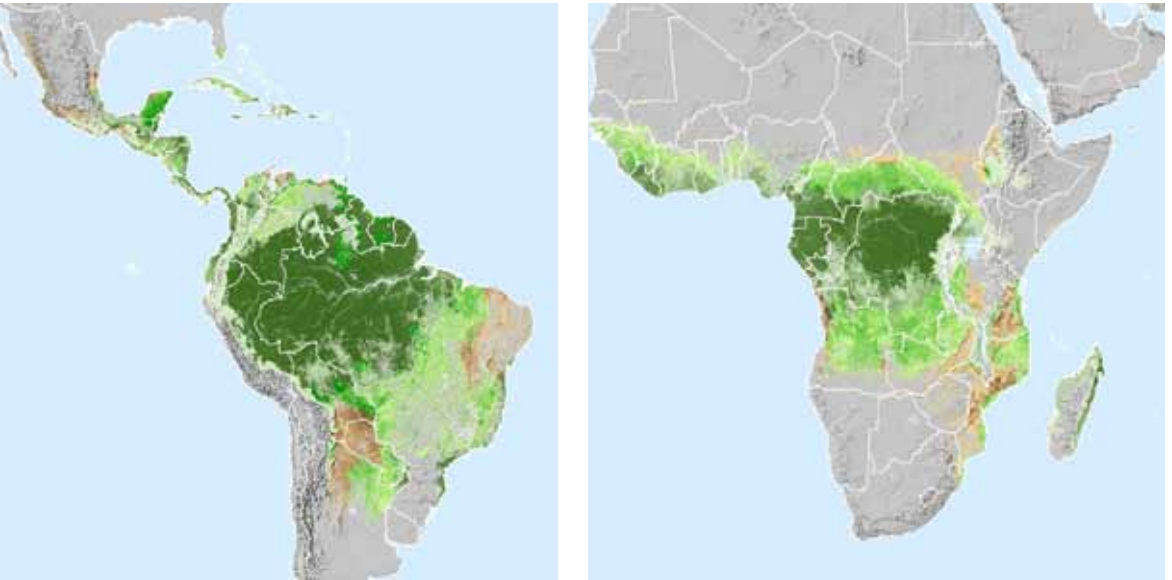
Forest Assessment statistics are collected by the FAO using national reports provided by national governments using a standardised format and methodology. Some countries have limited resources for updating their data and the quality of national statistics has therefore become very uneven. A global survey based on remote sensing conducted by the FAO with technical support from the Joint Research Centre (JRC) of the European Commission, covering 13,500 locations and a period of 15 years, was published in 2011 on the occasion of the Durban Summit. This provided a more detailed picture of rates of deforestation regionally and worldwide. The survey differentiates between gross losses and gains. It confirms that despite observed improvements global deforestation is continuing at a very sustained pace worldwide due to gross losses of forest land, essentially in tropical zones (cf. Figure 2). Ten countries account for almost a half of all global deforestation.

Certain regions in Southeast Asia and the Amazon have been particular deforestation hotspots, characterised by gross annual losses of forest cover exceeding 5% during the 2000s (Hansen et al., 2008). Over half of all tropical deforestation is concentrated in such hotspots, which account for just 6% of total tropical rainforest area. The main hotspots are:

- Latin America: the east and southeast of the Brazilian Amazon (the "arc of deforestation"), northern Guatemala and eastern Bolivia,

Figure 1 Types of tropical forest

Source: FAO, 2010



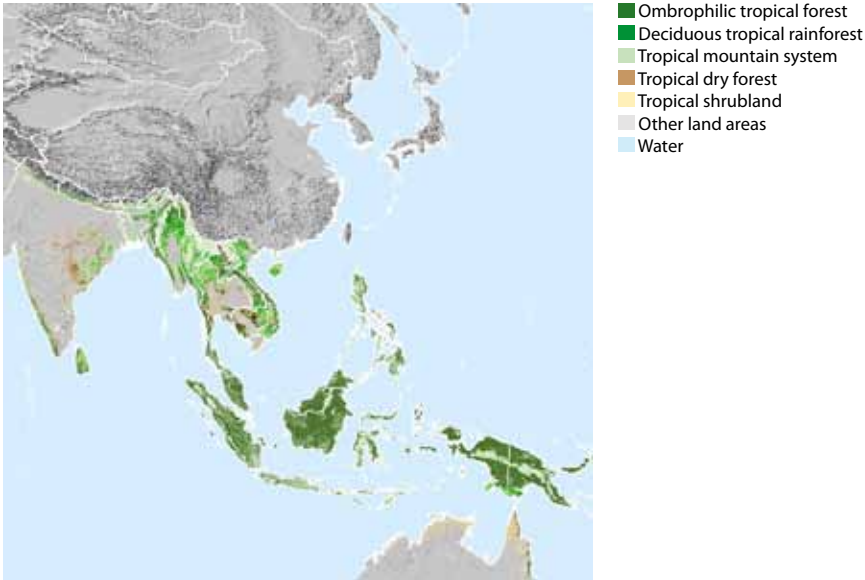
- ▶ Southeast Asia: Sumatra in Indonesia, the whole of Malaysia, the area along the border between Cambodia and Thailand, and Myanmar,
- ▶ Central Africa: the majority of the Congo Basin rainforest is less affected overall than Southeast Asia or the Amazon biome, other than the most densely populated areas of Cameroon and DRC, at the edges of towns and along roads. The most intense deforestation is in the dry zone forests of West and East Africa.

To these particular concentrations should be added areas where the deforestation is more limited but affects forest ecosystems of particular value. For example, the recent nickel mining boom in New Caledonia is threatening formations that are unique, with 80% endemism, despite the fact that only 1% of original sclerophyllous forests and 10% of tropical rainforests remain on ultramafic soils.

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Increasingly degraded tropical forests

Primary forests are under threat not only from deforestation, but also from human inroads, which bring far-reaching change, even involving opening up the canopy (Observatory for the Forests of Central Africa (OFAC), 2012). Where the original forest has been fragmented into a multiplicity of smaller and smaller areas, the environmental impacts are substantial, especially for wildlife, since its populations may be separated by areas that have been cleared. Degraded and fragmented forests are also more vulnerable to brush fires, drought and invasive species, especially in island habitats. These



risks are aggravated by climate change.

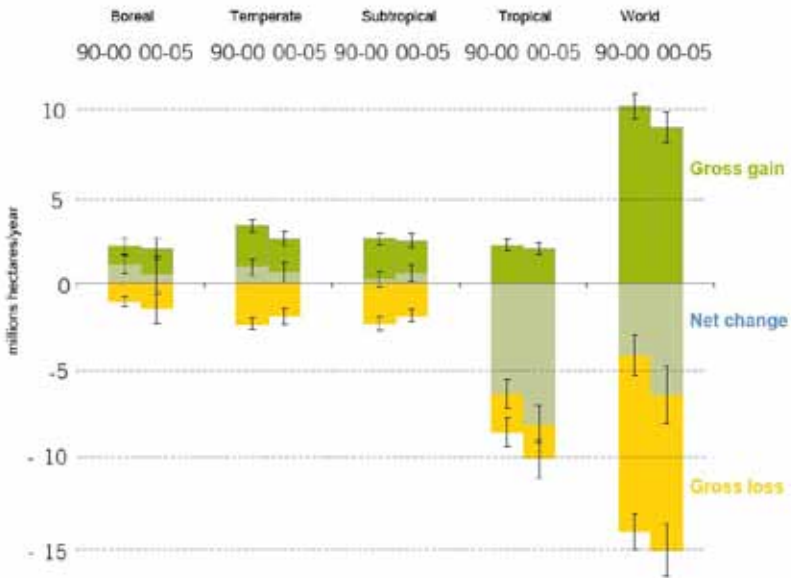
The areas of degraded tropical forests are probably extensive, although this is difficult to quantify since the main satellite data available do not allow us at present to characterise all aspects of degradation. Those data may however enable detection of the process of fragmentation indicative of a risk of current or future degradation (notably new road construction). Quantification of forest degradation will be of use in applying the REDD+ mechanism at national level (see Chapter II.E), which is why many countries are putting forest monitoring systems in place that combine remote sensing with observation in the field. Several initiatives are under way in order to improve measurement of forest degradation. In addition, ongoing diversification of satellite data sources and research programmes point to expanding potential for this in the future (cf. Sidebar 28 and Chapter II.G).

Reforestation compensates only partially for deforestation

The report issued by the FAO (2010) evidences gross shrinkage in global forests at the rate of approximately 13 million ha/year over the last decade. These recent figures point to an improvement since the FAO estimated that the figure was 16 million ha/year in the 1990s. This gross figure for deforestation appears to be partly offset by planting and the natural expansion of forests in some countries, with the result that the net loss of forest land worldwide is estimated by the FAO (2010) at 5.2 million ha/year over the period 2000-2010, to be compared with 8.3 million ha/year during the

Figure 2 Variation in forest cover by forest type

Source : FAO/JRC, 2011



1990s. The most spectacular changes in the trend are to be seen in Asia, which went from a net loss of 0.6 million ha/year to a net gain of 2.2 million hectares/year during the decade. This turnaround can be largely put down to China's large-scale forest planting programmes.

However, the ecosystem services provided by new, frequently single-species forest plantations, are far from equivalent to those provided by now-vanished natural tropical forests, notably where biodiversity is concerned. In particular, habitat destruction leads to irreversible loss of wildlife and plants. The continued massive loss of natural forests thus leads to major ecological damage that is often irreversible and constitutes a genuine threat not only to the livelihoods of the human societies dependent on them but also to global climate balances.

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3. Issues relating to the conservation and sustainable management of tropical forests

Human history and forest history are closely intertwined. Even today, indigenous peoples whose existence is totally dependent on forests represent approximately 60 million individuals (World Bank, 2004) and 1,6 billion human beings are dependent on forests to various degrees as a source of income, in the form for example of lumber, energy-wood for heating, medicinal plants and foodstuffs (CBD Secretariat, 2009).

Forests are a source of many subsistence resources for local populations and also contribute to the economic development of forest countries, essentially through the production of timber but also through other economic activities (ecotourism, payment for environmental services). Forests offer leverage for economic development that is all the more advantageous for the fact that the resource concerned is potentially renewable and therefore a source of long-term economic activity, on condition that genuinely sustainable methods of forest management can be adopted.

In the world's three great tropical forests, 279 million hectares have as their main purpose the production of timber materials and 135 million hectares are allocated to a wide range of uses (FAO/ITTO 2011). The harvesting of timber in tropical forests as a whole amounts to 700 million cubic metres every year, or 21% of total global removals of wood (FAO/ITTO, 2011), two-thirds of which is for burning. The formal forest sector (logging and timber processing) contributes on average 2% of GDP and employs 2.3 million people in the countries concerned. Indeed, the contribution to GDP is as high as 11% in the Central African Republic (FAO/ITTO, 2011). Nevertheless, a large part of forest activities are conducted in an informal context or as part of a subsistence economy, with the result that it is difficult to measure with any accuracy the importance of the economic function of forests. A major share of informal timber production is conducted outside any regulatory framework. The World Bank estimates that illegal logging is the cause of lost fiscal revenue of around USD 10 billion every year in developing countries.

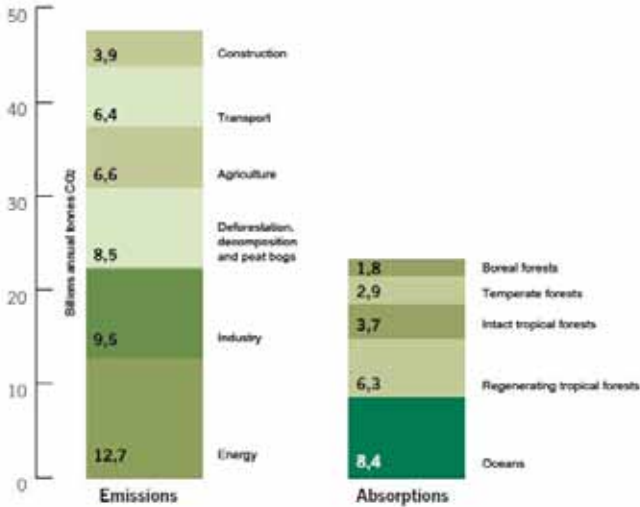
To forests' socio-economic role is added an environmental function that has taken on substantial importance in recent decades, with the highlighting of the many ecosystem services provided for society by forests. Their role in maintaining the broad global environmental balances is now considered to be crucial by scientists, the general public and policy-makers, notably on the basis of the high level of biological diversity that characterises tropical forests and their interactions with climate stability and food security. Provision of these global public goods goes hand in hand with the protection of soil against erosion and the regulation of regional and local water supplies, two environmental functions now widely acknowledged for tropical forests.

To date, it has not proved possible to translate the economic value-added of ecosystem services into any long-term financial mechanism for proportionate remuneration and as a consequence this has not been able to play a determining role in their long-term maintenance.

The phenomenon of biodiversity erosion is becoming particularly increasingly acute in tropical forest habitats. Of the fourteen terrestrial biomes, nearly 50% of species of the world's endangered mammals, birds and amphibians live in tropical rainforests, and almost 15% in the other types of tropical forest (Millennium Ecosystem Assessment, 2005). The disappearance of tropical forests has particularly significant effects on climate change. The Intergovernmental Panel on Climate Change (IPCC) estimates

Figure 3 Global greenhouse gas flows in the mid-2000s

Source: figures from IPCC, 2007 and Pan et al., 2011, in billions of tonnes CO₂ /year. The difference between total emission and absorption figures is due to the annual accumulation of CO₂ in the atmosphere.



that in 2004, 23% of global CO₂ emissions could be put down to deforestation and the degradation of forests and peat bogs, i.e. more than the whole transport sector worldwide (IPCC, 2007). Because of deforestation, Indonesia and Brazil were ranked respectively 3rd and 4th as greenhouse gas emitters, after the United States and China, but ahead of Japan, India and all the countries of Europe. This proportion has shrunk markedly in recent years as Brazil and Indonesia have reduced their deforestation rates, whereas the burning of fossil fuels has continued to increase globally. Despite the lesser contribution of deforestation to global emissions, protection of forests still ranks high in the efforts needed to limit global warming.

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Furthermore, whereas it was previously believed that the major global forest carbon sink was located largely in the temperate and boreal latitudes of the northern hemisphere (IPCC, 2000), we now know that in fact it is essentially in the tropics. Indeed, it appears that there is a carbon sink amounting to some 6.3 billion tonnes of CO₂ a year due to the regeneration of secondary forests and reforestation, along with 3.7 billion tonnes of CO₂ a year in primary forests (Pan et al, 2011). The expansion of the carbon stock in primary forests is thought to be linked to the slow, increasingly dense succession of forest species over the very long term, especially in the Congo Basin where forests recolonised areas a millennium ago, and to the stimulation of photosynthesis due to the increased level of CO₂ in the atmosphere. Major uncertainty remains however with regard to carbon storage, notably in tropical forest soil.



Logging roads, Malaysia. ©CNES 2009 - Distribution Astrium Services/Spot Image

4. France's place in the global tropical timber market

France is directly concerned by the fate of tropical forests since it is a forest country by virtue of its overseas territories, and more indirectly through the roles of those forests in major global environmental balances, and the potential they offer for the development of the green economy in partner countries, as well as the fact that France imports and consumes a range of tropical forest products, timber in particular.

The long-term trend for the size of the international market in tropical timber, both unprocessed and after primary processing, has been towards shrinkage, with a particularly major effect in the case of French and European imports following the 2008 financial crisis (cf. Figure 4). The comparative advantages of tropical timber on European markets seem now to be less clear than was previously the case. This international trade nevertheless involves only a small portion of production and exchanges, the majority of timber being consumed at local or regional level. According to ITTO figures (2011), France and the EU in fact import growing quantities of timber products that have already undergone secondary processing (e.g. furniture, parquet) which now account for over half of all timber imports into the EU from developing countries, expressed in equivalent roundwood volume.

France's place in the global tropical timber market is relatively modest (cf. Figure 5 and Figure 6). French Guiana produces relatively little timber (cf. Sidebar 2) and the other territorial départements and overseas communities even less. The importance of France is nevertheless substantial in the

European context since it accounts for nearly 40% of the EU's imports of tropical rough wood.

Sidebar 2 The forest/timber industry in French Guiana

The logging industry in the French territorial departement of French Guiana involves approximately twenty companies and around 80 employees. Total production has varied between 56,000 and 86,000 m³/year according to the year in the past decade. Around 70 species are harvested of the 1,200 present in the forest, including most notably angelica, gonfolo (ruizteriania albiflora) and determa (ocotea rubra), which accounted respectively for 45%, 19% and 10% of total harvested volume in 2009.

There are 37 sawmills in French Guiana, employing a workforce of approximately 200, producing 25,000 to 30,000 cubic metres of sawnwood and square-cut timber yearly and generating total net sales of €24 million in 2009. The six main sawmills account for 94% of this production. 87% of production goes to the local market and 86% to the construction industry, of which 46% is used for roof frames.

Over 150 private companies operate in the secondary processing sector, employing a workforce of almost 500 and generating total net sales of €29 million in 2009, mainly from roof, door and window frames, but also interior woodwork and craft work.

Information from the Directorate for Food, Agriculture and Forests, Prefecture of French Guiana

Figure 4 Imports of tropical deciduous timber (unprocessed and after primary processing), 1994-2010

Source: ITTO data. The term "world" here covers all ITTO consumer member countries, i.e. the majority of OECD countries but only China and South Korea among the emerging countries in Asia.

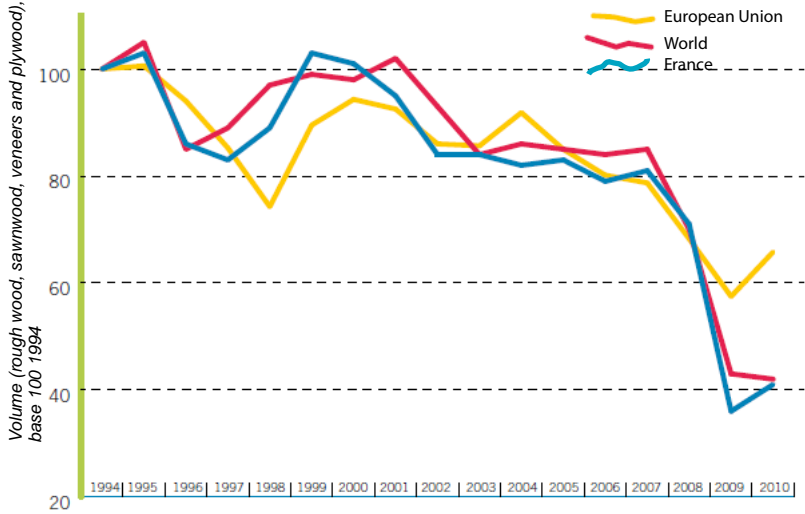
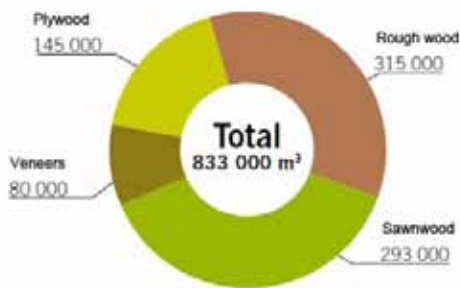


Figure 5 French imports of tropical deciduous timber, by product type

Source: ITTO data, average for the years 2006-2010



France plays a significant role in Europe where tropical timber from Central Africa is concerned (cf. Figure 7). France has a wood processing industry enabling it to export processed product, mainly to other European markets (e.g. United Kingdom, Italy, Netherlands).

However, France is still a net importer of tropical plywood products, more than half of which come from China and Brazil or, to a lesser extent, from Central Africa (cf. Figure 8). Trade relations between France and

Tropical deforestation, although declining, is still a cause of considerable concern. Forest degradation is also highly worrying, notably with regard to its consequences for the climate and biodiversity.

The importance of France and the EU in tropical timber markets is declining as compared to the demand from emerging countries.

emerging countries in Asia and South America thus seem to be expanding, to the detriment of historical trade with African countries, which are based largely on imports of basic products, although trade measures have recently been taken to develop a local processing industry: the government of Gabon has recently decreed a ban on exports of rough wood which has been coming into force in stages since 2010.

B. THE BROAD LINES OF FRENCH ACTION ON TROPICAL FORESTS

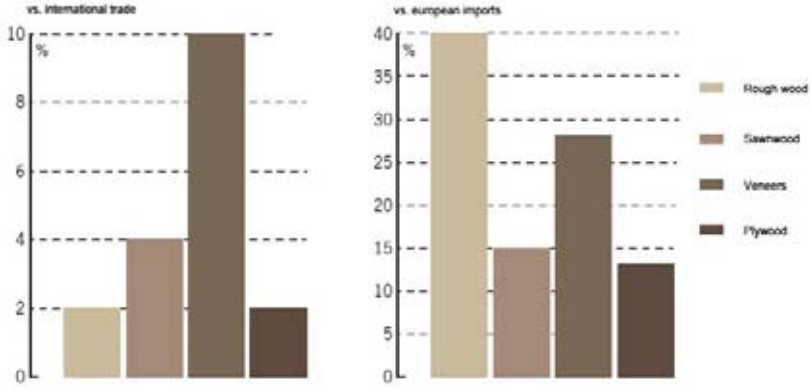
1. Guiding criteria for French action

The French code of forestry law (Code forestier) is the basis for French policy on forests. The introductory volume of the Code forestier defines sustainable management of forests in its first article: *“sustainable management’ means the stewardship and use of forests and forest lands in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems.”* This definition is taken directly from Resolution H1 of the Ministerial Conference for the protection of forests in Helsinki in 1993. The Code forestier has applied to French tropical forests in the overseas départements, including the forests of French Guiana, since the official order of 2005 and two official decrees in 2008, with some adjustments, exceptions and differences that relate to specific contexts.

The Grenelle consultation process on the environment in France added some detail to this, especially with respect to the international dimension (cf. Sidebar 3).

Figure 6 French imports as a percentage of global/European imports of tropical deciduous timber

Source: ITTO figures, average for the years 2006-2010



National water and forest school, students in the field, Gabon. © Max Hurdebourcq, archives of the ministry of foreign affairs

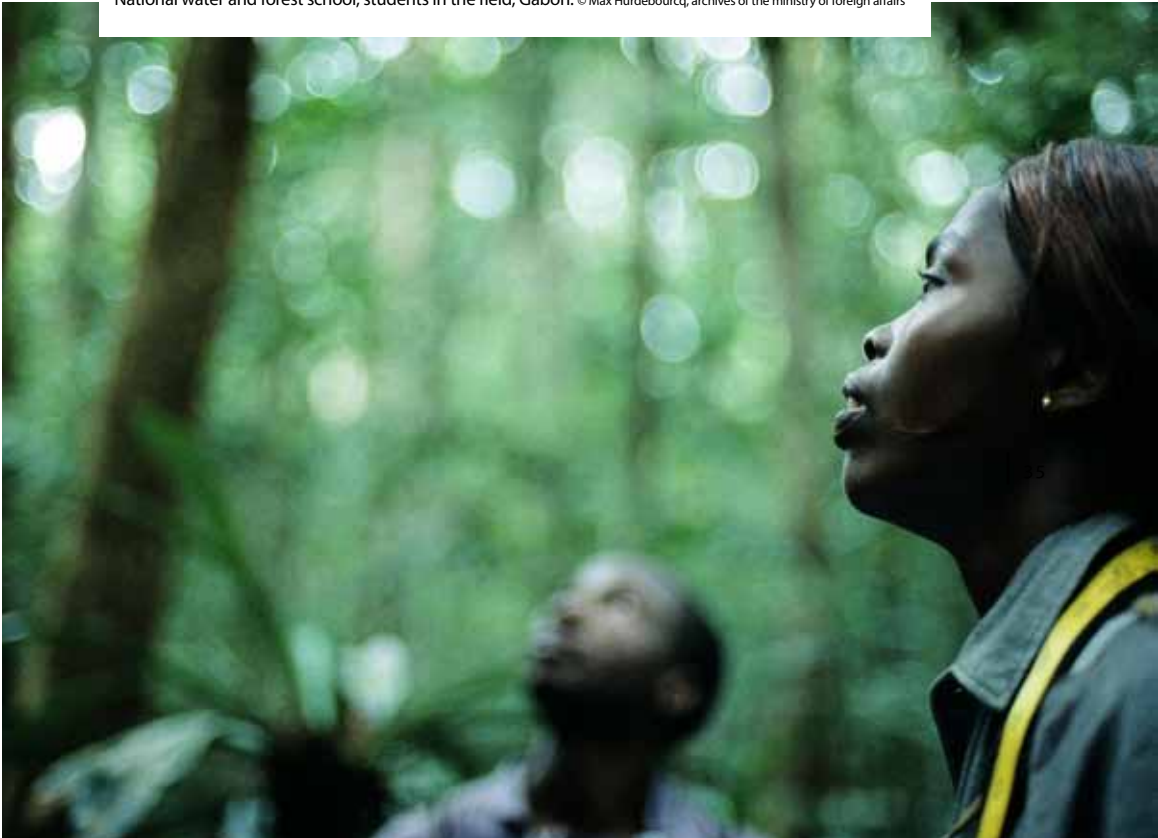


Figure 7 Sources of the main French imports of tropical rough wood

Source: ITTO data, average for the years 2006-2008, in thousands of cubic metres

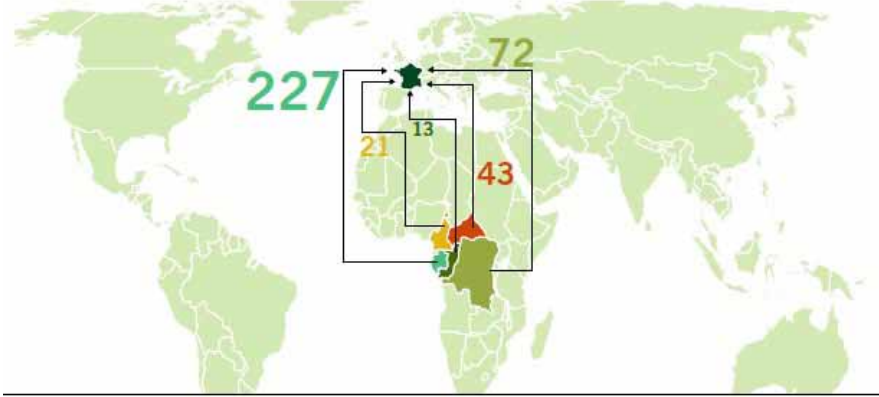
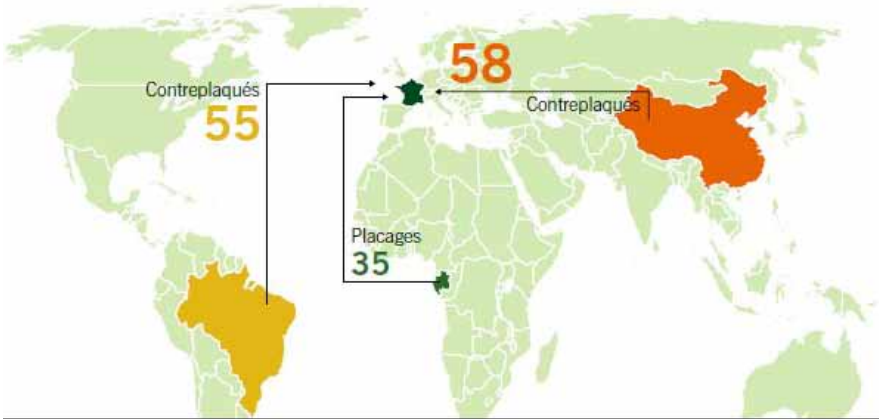


Figure 8 Sources of the main French imports of tropical veneer and plywood products

Source: ITTO figures, average for the years 2006-2008, in thousands of cubic metres



Contreplaqués : Plywood (average for 2006-2008, thousands m³)
Placages : Veneer (average for 2006-2008, thousands m³)

Sidebar 3 Extracts from Grenelle Statute I

Article 34. Ordinary and remarkable forest biodiversity must be preserved within the framework of more dynamic management of the timber supply chain and with a view to combating climate change. Increased production of timber as an ecomaterial and a source of renewable energy must be made part of local development projects.

To achieve these goals, the government undertakes to make the combat against climate change part of its forest policy and procedures for the management of forest stands; to promote the certification and the use of certified timber or, failing this, timber from forests managed in a sustainable manner, in public-sector construction from 2010; to define clear arrangements for the recognition of certification of sustainable forest management based on European and international programmes in this field; to define a programme aimed at extracting additional volumes of timber from forests, storing and adding value to them on terms compatible with the sustainable management of forestry resources; to adjust construction standards to take account of the use of timber, in particular by increasing very significantly the minimum percentage of timber to be incorporated in constructions and supporting the implementation of a quality label; to recognise and add value to environmental services provided by forests; to defend forests and biodiversity in the European community and internationally as one of the pillars of the international framework for combating climate change, with the relevant financial mechanisms, notably by promoting consideration of the reduction of greenhouse gas emissions caused by deforestation and forest degradation in the international carbon market, in conjunction with the European system for trading greenhouse gas emissions quotas; to promote all actions contributing to the resilience of forests in resisting global warming; to reinforce the means for combating illegal imports of timber nationally and at European level.

With regard to the focuses of French policies on tropical forests outside its own territory, in addition to the recommendations of the 2006 White Paper on tropical rainforests, which reflects the consensus among French stakeholders on the ways forward to be promoted, other documents define the framework for action by France on tropical forests. The government's Action Plan on tropical forests, which dates back to 2004, validated the changes under way since the early 1990s by placing the concept of sustainable management at the core of tropical forest policy and reinforcing the integration of the social and environmental aspects as part of the major policy focuses.

In 2005, the sectoral strategy of the CICID (Comité interministériel de la coopération internationale et du développement / Interministerial committee for international aid and development) on the environment also stressed the importance of the environmental issues relating to tropical forests, and especially biodiversity conservation. In June 2009 the CICID broadened the scope of these issues by highlighting the challenge of preserving global public goods. The sectoral priorities include sustainable development and

climate with especial emphasis on forests. The CICID concluded that *“France will allocate on a voluntary basis, in line with the possibility afforded by the “energy-climate package”, part of the revenue generated by the auctioning of CO₂ quotas to climate programmes in the least developed countries.”*

The months leading up to and following the Copenhagen Climate Summit in late 2009 were marked by intense political commitment to tropical forests. For example, on 30 October 2009 the European Council underscored the importance of mitigation measures in the forest sector in developing countries. After expressing his views on the subject in the margins of the United Nations General Assembly, the President of the French Republic met with his opposite numbers from several forest countries (Brazil, Indonesia, countries Central Africa), particularly at the Amazon Countries Summit in Manaus, where he argued for 20% of the funding dedicated to action against climate change to be allocated to *“the protection of forests to prevent deforestation.”* The Copenhagen Agreement acknowledged the need to put the REDD+ mechanism in place rapidly, after it was finally adopted in Cancun at the end of 2010. France, alongside five other donor countries, announced an initial collective commitment to devote USD3.5 billion over three years to priming the pump for this mechanism. The President of the Republic took a decision to organise an International Conference on the Major Forest Basins, which was attended by around fifty countries and which, in conjunction with the conference in Oslo two months later, led to the implementation of an interim REDD+ partnership to speed the application of the Copenhagen acquis without awaiting completion of the negotiation and deployment of the new Climate Convention institutional arrangements.

The report on the protection of tropical forests and their biodiversity submitted to the President of the Republic in October 2010 by Jacques Le Guen, member of the French Parliament for Finistère in Brittany, threw new light on all these parameters for French action on tropical forests.

2. The main planks of the French approach on tropical forests

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The French approach to forests is characterised by the importance it attaches to the multifunctionality of forests and extracting value from that multifunctionality without going down the road of systematic forest specialisation (forests designated for total conservation protection as against forests designated exclusively for production). It also assigns major importance to a stronger role for the forest sector in development and combating climate change. Today the acknowledged specificities of French action on tropical forests relate to the efforts made to reinforce governance at a number of levels (local, regional and international), support for forest management planning with a view to their sustainable management, especially in the Congo Basin, and investment in research and information systems, particularly expertise in the area of remote sensing for the identification and



Guadeloupe National park. © Jonathan Saulnier, Ministry of Agriculture, Agro-food and Forestry

monitoring of deforestation.

Its overseas tropical forests have given France extensive experience in managing and understanding tropical forest ecosystems. The activities conducted in its overseas départements provide leverage for France's actions internationally. Furthermore, France has research centres specialising in tropical forests (CIRAD, CNRS and IRD research units) that have a high reputation in Europe and worldwide. Several French researchers working on tropical forests are in post in international and foreign research organisations (e.g. Centre for International Forestry Research (CIFOR), World Agroforestry Centre - ICRAF).

France is a stakeholder in the European Union's Action Plan, FLEGT (Forest Law Enforcement, Governance and Trade) adopted in 2003. This investment in the FLEGT Action Plan represents the preferred approach to action on the part of France for the improvement of forest governance. France is closely involved in supporting the negotiation and application of Voluntary Partnership Agreements (VPA) between the EU and African forest countries.

France has a long tradition of action on Africa's tropical forests, especially those in the Congo Basin, going back two decades (cf. Sidebar 3 and Lauginie et al., 2011). Nevertheless, bilateral aid has also included the other major tropical forests in the last several years (cf. §I.B.3 below). The approach to cooperation with the countries of the Congo Basin has largely focused on providing technical support for reform of their codes of forestry law, on training and research, on the funding of private-sector operators in implementing forest management planning and more recently on increasing participation in the REDD+ mechanism. In this connection

France has financed pilot projects and supported the development of national REDD+ strategies. In December 2011, France signed the Joint Declaration of Intent for the acceleration of the implementation of REDD+ in the Congo Basin between the countries of Central Africa and partner countries.

At the Durban Climate Conference in December 2011, France also confirmed that SPOT satellite imagery would be made available to the countries of the Congo Basin over the period 2010-2015, along with provision of the necessary technical assistance for their analysis to meet the needs of the REDD+ mechanism and climate plans, plus the installation in Libreville of an antenna for reception of imagery data.

Over the period 2005 to 2007, France provided facilitation for the Congo Basin Forest Partnership (CBFP), which brings together numerous regional, national, multilateral, private and public-sector, non-profit association and scientific actors concerned to take action to preserve the Congo Rainforest, in support of the political will expressed at regional level within the framework of the Central Africa Forests Commission, COMIFAC.

The French and Brazilian Heads of State signed a protocol of cooperation for sustainable development of the Amazon biome in Rio de Janeiro on 23 December 2008 in the context of the Franco-Brazilian strategic partnership (Decree 2009-508 of 4 May 2009). Follow-up on this protocol is the task of the "Joint Amazon Biome Committee", which meets once a year, bringing together public authorities and researchers from both countries.

By virtue of its territorial department Guiana, France is also a participant in the preparation of a cooperation agreement between the three major tropical forests (Congo Basin, Amazon Basin and Southeast Asia) following the Brazzaville Summit in June 2011.

Technical support for the negotiators of developing countries on the topic of interactions between forests and climate change is another major thrust for France's action. That support began to be deployed for South American negotiators in 2001 (the Southern Cone, followed by the Andean nations, Central America and today the Guiana plateau), and later, from 2005, in Central Africa and Southeast Asia in some cases. This has fostered conditions favourable to obtaining important international agreements in this domain in recent years.

Among France's various commitments on tropical forests, a frame agreement with the IUCN has led since 2005 to a diversification of French methods of action, especially on issues of management efficiency and the management of protected areas in Sub-Saharan African, trade in and consumption of bushmeat in Central Africa and, to a lesser extent, artisanal logging in the Democratic Republic of Congo.

3. Instruments and targets for French aid in the tropical forest sector

Aid instruments dedicated to tropical forests

French aid policy is coordinated by the CICID. Aid for forests is channelled via the “Economic and Financial Aid for Development” programme of the Ministry of the Economy, Finance and Industry (subsidised loans from the French Development Agency (AFD), subsidies from the French Global Environment Facility – FGEF, and contributions to the activities of the multilateral development banks and various multilateral trust funds, including the Global Environment Fund – GEF) and the “Solidarity with Developing Countries” programme of the Ministry of Foreign and European Affairs (AFD subsidies, contributions to the European Development Fund – EDF – and the activities of the UN system). Debt conversions and Debt Reduction-Development Contracts (C2Ds) have also been used to fund sustainable forest management in some forest countries, as was recommended by the 2006 White Paper.

Over the period since the previous GNFT report (2006-2011), the total amount of French aid committed to the tropical forest sector stood at over €500 million (cf. Annex 4: List of French forest aid projects 2006-2011), to which can be added the portion of European development aid financed by France in the forestry domain, which has amounted to approximately €22 million a year¹. In quantitative terms, this level of aid places France rather far behind the major donors in the forest sector: Norway, Japan and Germany, whose annual aid stands at around €300 million, and closer to the United States, the Netherlands and the United Kingdom, whose aid is in the region of €100 million a year (2).

This situation moved forward with the announcement of the early funding of the forestry side of the Copenhagen Agreement, which amounted to extra finance of approximately €250 million for French aid targeting forests over the period 2010-2012 (3). This funding, which relates in large part to forestry aid activity, has been raised through the GEF’s new Sustainable Forest Management (SFM) / REDD+ programme at multilateral level and the AFD and FGEF at bilateral level.

Forty per cent of aid going to the forest sector is provided in the form of subsidised loans (cf. Figure 9), the rest comes from donations, including those under Debt Reduction-Development Contracts (C2Ds), contributions to European and multilateral aid, projects by the FGEF and AFD and

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2. European development aid in the tropical forests field stood at an annual amount of USD116 million bilaterally over the period 2005-2007 according to Simula (2009) and at USD23 million a year multilaterally over the years 2005-2010 according to IBF (2011), which yields a total in the region of €110 million annually. France contributes around one-fifth of this (16% for activities undertaken through the general budget of the European Commission, 24% for activities under the EDF pre-2011 and 20% under the EDF post-2011), for an approximate total of €22 million a year.

3. Of the announced €250 million, the amounts committed in 2010 and 2011 are included in the total of €500 million mentioned in the preceding paragraph and go a long way to explaining the increase in activity over the period 2006-2011.

technical assistance.

France's contribution to the EU aid for tropical forests is a major component of the French financial effort in favour of the world's forests channelled through the EU's general budget and the European Development Fund, to which France has been the leading contributor. Aid from the European community has strong recognition for the support it gives to protected areas, civil society programmes and improvements in governance.

In thematic terms, (cf. Figure 10), the vast majority of the aid programmes serve biodiversity protection, the combat against global warming and socio-economic development in the partner countries. In many cases it is difficult to highlight the concrete content in the programmes supported (contributions to European and multilateral aid, horizontal support for forest policies). It is however possible to identify the volume of activity over the period 2006-2011 at €76 million for projects targeting the management of protected areas directly, €32 million for forest management planning and/or the timber industry, €35 million for science, expertise and information systems, €35 million for restoration of degraded ecosystems and €23 million for supporting local community action. The support for forest management planning, which was for many years a structural pillar of French forest aid, is still an important focus for the programmes, which have become much more diversified in recent years.

Debt conversion and Debt Reduction-Development Contracts (C2Ds)

C2Ds form the French bilateral component of the Paris Club Initiative on Heavily Indebted Poor Countries (HIPC). Debt repayments are reassigned by France as subsidies. €101 million have been committed to tropical forests though debt conversion involving four countries, of which €39 million has already been assigned to projects, representing 6% of total French forest aid volume over the period. Nearly a half of the sums allocated to forests under debt conversion arrangements has gone to financing protected areas in Madagascar and Mozambique, with the other half going to sustainable development of forest ecosystems in Gabon and implementation of forest policy in Cameroon.

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The aid provided to the forest sector by the AFD

The AFD managed over half the total volume of French aid for tropical forests during the period 2006-2011 (donations and subsidised loans), and this body plays a very important role in French aid for tropical forests. The AFD's programmes seek to promote sustainable management of forests designated for production or for conservation, as a source of employment and a guarantee of the long-term preservation of forest ecosystems. Three main focuses for action have been defined: the sustainable management of forests designated for production, supply chain competitiveness and addressing the major global environmental issues (climate change and biodiversity).

While aid for forest in Central Africa continues to be a priority, a major

Figure 9 Aid instruments for the tropical forest sector, 2006-2011

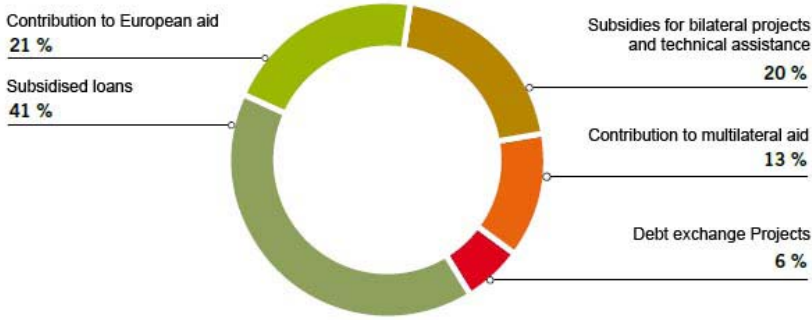
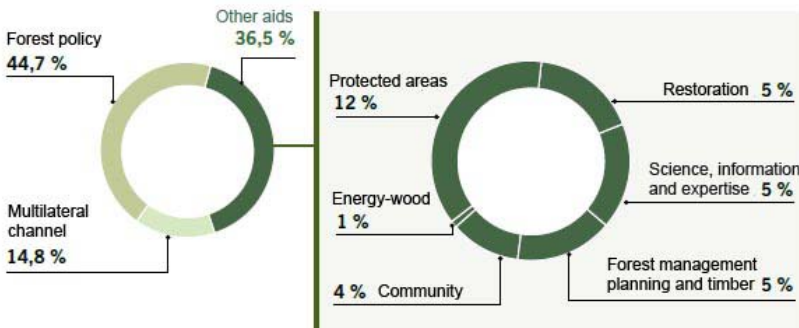


Figure 10 Thematic breakdown of aid to the tropical forest sector, 2006-2011



share of AFD aid is targeted on other forest regions, in Latin America, Asia and Africa, particularly in the form of loans to emerging countries. In addition, nearly 10% of the funding under AFD management – around €30 million – is assigned to multilateral programmes such as the Critical Ecosystem Partnership Fund (CEPF) on biodiversity, the Forest Carbon Partnership Facility (FCPF) and funding for protected areas under the frame agreement between France and the IUCN.

The AFD's aid programmes in the Congo Basin have recently been the focus of capitalisation efforts (cf. Sidebar 5 in Chapter II.A). From the early 1990s, the AFD's actions have focused on the application of the concept of sustainable forest management, the importance of which increased following the Rio Earth Summit in 1992. Its implementation has been largely on the basis of the promotion of a tool: management planning for forest concessions. This policy has led to nearly 20 million hectares of forests being covered by management plans in Central Africa. "An important step forward

has thus been achieved over 20 years, although the expression ‘areas under management planning’ embraces widely differing situations.” (Samyn et al., 2011).

FGEF funding

The French Global Environment Facility (FGEF), set up in 1994 following the Rio Summit, funds innovative projects in many tropical forest regions. The FGEF acts in support of government departments, civil society and the private sector to guarantee approaches to forest management and conservation compatible with the preservation of biodiversity, the wellbeing of the local population and maintenance of carbon stocks.

The FGEF allocates finance exclusively in the form of subsidies for global environment protection. This aid is supplemented by the French bilateral aid system for tropical forests, in the amount of €43 million over the years 2006-2011. FGEF aid tends to be concentrated on the Congo Basin, which received nearly 39% of the total allocated to tropical forests, whereas 8% went to multilateral programmes and the remainder to projects in other tropical regions.

The FGEF has itself been subject to an evaluation of its action in the area of biodiversity conservation in the Congo Basin (Laugnie et al., 2011). This has highlighted the particularly innovative character of FGEF programmes in the sub-region, covering protected areas, sustainable forest management, combating deforestation, and energy-wood, along with certain institutional aspects such as, most notably, capacity-building, research and improvement of dialogue between government departments, the private sector and civil society.

4. Lessons to be learned from the evaluation of the implementation of the White Paper on tropical forests

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The evaluation work done in 2011 on the implementation of the White Paper recommendations on tropical rainforests has shown that this reference publication provided a useful framework for the guidance of the programmes of French actors over the period 2006-2011.

While it appeared to be difficult to put down to the White Paper alone the implementation of policy measures and projects, it is nevertheless clear that the concertation exercise conducted within the framework of the GNFT has generated a dynamic leading to practical action. In the wake of the White Paper, coordinated programmes between the public authorities and private actors have increased in number. Joint programmes between logging companies and certain conservation NGOs have also been conducted on the ground.

The evaluation reveals that many programmes implemented since 2006 do not fully meet the needs of certain stakeholders. Specifically,

little progress is noted on certain important recommendations such as the resolution of land tenure issues (participatory zoning of forest uses) or the execution of impact studies.

Of the four main chapters of the White Paper (Promotion of an integrated approach to biodiversity conservation and sustainable forest management; improved governance of forest spaces; strengthening the knowledge base, research and the circulation of information; reinforcement of timber market concern to ensure sustainable management), some recommendations have been applied fully whereas others have remained a dead letter due to practical issues, operational priorities or in some cases because they seem, in hindsight, to have little relevance. The following sections summarise the main points of this evaluation of the four main chapters of the White Paper recommendations.

Promotion of an integrated approach to biodiversity conservation and sustainable forest management

Where this first chapter is concerned, the evaluation highlights many improvements in management generated by the adoption of forest management planning and forest management certification standards in the countries of the Congo Basin, where the AFD and the FGEF have funded aid programmes. In line with the evaluation study of AFD action in the Congo Basin (cf. Sidebar 5 in Chapter II.A) conducted recently, assessment of the White Paper's recommendations shows up some inadequacies and room for further progress to be made if the social and environmental components of the management plans are to be taken more fully into account.

Substantial progress has been made on the social and environmental aspects of forest management in French Guiana, in particular due to the value-added provided by the Amazon National Park in Guiana on the territory for which it is responsible. Nevertheless, the institutional structure and the influx of national funding mean that this is a model not easily replicated in the tropical belt as a whole.

A further set of recommendations concerned forest management outside the major concessions. At this level, aid projects have targeted management planning in small to medium-sized concessions and concessions managed by operators other than large corporations in Central Africa, but their effectiveness and legitimacy are controversial. Progress was noted with regard to management planning in municipal forests. Conversely, community management of forests, strongly recommended by some NGOs, continues to be a complex topic that has not moved forward substantially.

Still on the same chapter, the recommendations on conservation, especially those relating to protected areas, have been implemented satisfactorily in French overseas territories with the creation of two new national parks. The increase in the funding devoted to conservation was also highlighted, notably with regard to support for conservation projects and FGEF and AFD contributions to trust funds. Nevertheless, the conclusion was underlined that the AFD's strategy in the conservation sector in Central

Africa was too unambitious, a conclusion shared by the assessment of AFD programmes in the Congo Basin, although it is true that action in this field continues to be complex.

And lastly, the recommendations on the rehabilitation of degraded sites have been implemented in part. Several projects scattered across the various tropical regions cover a number of aspects (research on reconstitution following logging, enrichment plantations in Africa, agroforestry in French Guiana, restoration of mining sites in New Caledonia) but what is lacking is an overall diagnostic analysis to structure action on these issues.

Improving forest governance to promote an integrated vision of biodiversity conservation and sustainable forest management

The recommendations of the 2006 White Paper on improving governance were initially focused on promoting a new approach to planning land uses. Where this is concerned, the evaluation highlights the efforts made in France's overseas départements to clarify the land tenure situation – by means, for example, of the regional management planning framework progressively implemented in French Guiana – in contexts typified by strong pressure for the conversion of forest land to agricultural crops or other uses. Conversely, the evaluation points out that the recommendations on the Congo Basin, and particularly the recommendation for participatory zoning in forest lands, have seen very little practical application. Management planning for forest lands has been applied essentially through the management planning tool for forests that are designated for production, which can be seen to be much more restrictive than a broad approach to management planning in forests generally. However, this complex issue relates to more general problems surrounding lack of governmental authority.

The combat against illegal activities was a second important point in the recommendations on governance. In this regard, the evaluation highlighted the practical steps taken in French Guiana to counter illegal gold mining with the publication in December 2011 of official decree 2011-2105 approving the mining policy master plan for the département (SDOM). The SDOM decree defines, using zoning in particular, the compatibility with mining activities of the various different areas making up the territory of Guiana, taking into consideration the need to protect vulnerable natural habitats, landscapes, localities and local populations. The organisation of the combat against illegal and clandestine gold mining in Guiana is described in more detail in Sidebar 4 below.

Sidebar 4 Organisation of the combat against illegal and clandestine gold mining in French Guiana

Combating clandestine gold mining is the responsibility of the Gendarmerie, the Border Police and the Guiana Armed Forces and Customs under the auspices of operation "Harpie". It also involves the ONF by virtue of the Forest Board's programmes to monitor and assess the impacts on habitats of gold mining, both legal and illegal (i.e. mining that goes beyond the limits set in the authorisation issued to a company holding a mining permit, under the control of the DEAL, Directorate for the Environment, Spatial Planning and Housing).

The ONF's monitoring of the effects of mining activity on natural environments in Guiana involves the analysis of satellite images (changes in cleared woodland areas and river turbidity) and conducting intelligence missions by helicopter (GPS coordinates of clandestine gold mining sites). Over a hundred missions by air, land or river were conducted for example in 2009 to detect, characterise and geolocate gold mining locations. This information is aggregated in a GIS database, the Mining Activity Observatory (OAM). This monitoring body is run and its data supplied by the ONF, as well as being used and supplied with data from the Guiana Armed Forces, the National Gendarmerie and the Guiana National Amazon Park. A secure platform for information exchange has been set up between the bodies involved.

The Gendarmerie applies an approach based on deterrence involving action to reduce the economic viability of clandestine operations by raising gold miners' production costs. Under this approach, the higher the price for gold, the more intervention missions are required. Three types of intervention are favoured: (i) action on flows (interdiction of logistics routes), (ii) action on the locations concerned (destruction of worksites and the means of production), (iii) action on sources (dismantling supply chains, developing cooperation with neighbouring countries). Three squads have been assigned specifically to action of this kind under the "Harpie" mission. Increasing resources have been allocated to this and the organisation was recently given permanent status, with monitoring posts based on the ground in the areas of greatest strategic importance. The Gendarmerie is supported by the Guiana Armed Forces and the Air and Border Police, with input from the ONF in the form of reconnaissance and forest-based work.

Until 2008, the trend in clandestine gold mining was one of sustained growth overall: firstly, in sectors gradually being abandoned by legal mining operations and secondly in Western Guiana, in conjunction with the development of mining on the Suriname coast, and progressively spreading southwards into the area where the Guiana National Amazon Park has been established.

Since 2008, and especially since 2009, following the operations conducted by the government to counter the development of clandestine gold mining, a substantial year-on-year decline has been observed in areas of cleared woodland and directly impacted waterways. The reduction in the number of clandestine mining sites is continuing steadily at around 20% a year. However, it is increasingly difficult to detect such sites and this is making efforts against clandestine gold mining more problematic. The stepping up and long-term continuation of "Harpie" operations has probably had an effect on the ways in which clandestine gold miners carry on their activities, increasing

the number of individual sites, prioritising mobility, reducing the size of clearings and diversifying mining strategies, either by increased recourse to reworking older abandoned sites or by developing shafts that are less easy to detect under tree cover. The harm done to natural habitats is therefore still a matter of great concern for local communities highly dependent for their livelihoods on the quality of water, fisheries and forest resources.

The strengthening of regional institutions in Central Africa and France's support for the implementation of the FLEGT action plan in the sub-region are also highlighted as positive points. Conversely, at a more local level, the recommendation on closer monitoring of the implementation of forest management plans in Congo Basin concessions is seen to have been insufficiently applied, and this is confirmed by assessment of AFD programmes. Lastly, other than initiatives for the benefit of local populations implemented as part of management planning, aid programmes have paid very little attention to strengthening civil society, despite the fact that this is among the core recommendations of the White Paper. It should however be pointed out that other donors have given considerable support to civil society and that action by the AFD has supplemented this by specifically providing support to government administration and the private sector, areas in which few donors have been active.

Strengthening the knowledge base, research and the circulation of information

In order to remove any uncertainty as to a whole set of issues surrounding the management of tropical rainforests, the White Paper argued for several policy focuses aimed at strengthening the knowledge base in a number of domains. In the first place, the White Paper recommended the execution of impact studies, and implementation of this turns out to be still very patchy.

Secondly, the White Paper's recommendations addressed the consolidation and renewal of research efforts, which has been partially achieved with several programmes of research into tropical forests supported by French overseas aid. The evaluation points to European and international recognition of the quality of the work done on tropical forests by French research bodies.

Reinforcement of timber market concern for sustainable management

The initiatives aimed at making the French and European tropical forest product market more accountable have been substantially developed, thanks particularly to the involvement of France in the implementation of the EU Timber Regulation (EUTR) adopted by the Parliament and Council of the European Union in 2010. The recommendations on reinforcement of the timber market's concern for sustainable management have also been given

practical expression in commitments on social and environmental responsibility in the tropical timber industry, in conjunction with environmental NGOs active on this topic. Tropical timber certification schemes have been gradually adopted by the industry.


Where responsible public procurement policies on tropical timber are concerned, the White Paper's recommendations were taken up in part in the Grenelle consultation process on the environment in France. One of the proposals was to implement a system for monitoring and assessing the impacts of the implementation of schemes targeting responsible public procurement. A study was conducted into this which pointed up numerous technical difficulties making it difficult to obtain precise data on the proportion of timber derived from sustainable management involved in public procurement contracts.

France continues to be highly committed to tropical forests and the level of aid provided by France has increased substantially in recent years.

Until recently French forestry cooperation was closely targeted on supporting forest management planning in Central Africa; it is now diversifying in terms of its thematic and geographical focuses.

The sustainable management and conservation of tropical forests in French overseas territories has made progress in recent years.



The image is a vertical composition. The top half shows a close-up of acacia tree branches with light green, feathery leaves against a clear blue sky. The bottom half shows a wider view of an acacia dry forest with several large, dark-trunked trees. In the foreground, three goats are walking across a grassy area. The text is overlaid on a white rectangular background in the center.

FUTURE OUTLOOK
**GUIDANCE
FOR A FRENCH
APPROACH
TO TROPICAL
FORESTS**

Acacia dry forest,
Shashemene area, Ethiopia.
© Geneviève Michon, IRD

A. SUSTAINABLE MANAGEMENT OF TROPICAL FORESTS DESIGNATED FOR TIMBER PRODUCTION

The management of tropical forests was seen for many years simply as the production of lumber by logging companies operating large concessions. However, over the last twenty or so years, rural populations (traditional forest communities, farmers, etc.) have gradually become increasingly involved. Their management objectives are not noticeably different, adding to lumber production Non-Wood Forest Products (NWFP) such as bushmeat and edible and medicinal plants. The demand for certain types of NWFP is high and their production is increasingly an important source of income for rural populations. In Cameroon for example, genuine harvesting and marketing supply chains have sprung up around Gnetum (lianas whose edible leaves are a good source of proteins) and wild mango (the kernel of which is edible).

More recently, the provision of environmental services by forests has been identified as an additional management objective. Forests render numerous environmental services which include carbon storage, biodiversity maintenance, soil protection and water cycle regulation.

Lastly, tropical forests often have a social and heritage dimension (in terms of culture, archaeology, history or religious worship) which is separate from production but must be taken into account by managers.

Tropical forest management must therefore adapt to new issues and aim for optimised production of a multiplicity of goods and services, whilst nevertheless preserving social and heritage functions. The concept of sustainable forest management seeks to reconcile these different objectives. In many tropical countries, forest policy reforms have been conducted for some twenty years now in order to translate this into practical arrangements.

1. Forest management planning

In ITTO producer countries, the total area of the permanent forest estate designated for production where sustainable forest management is applied expanded from 25.2 million to 30.6 million hectares during the years 2005 to 2010, amounting to an increase of around 20%. Despite this substantial progress, sustainably managed forests represent less than 10% of the permanent forest estate designated for production in countries that are producers of tropical timber and members of ITTO (ITTO 2011b).

Table 2 The present status of forest management planning and certification

Région	Total		Total useable areas		Areas under management planning schemes		Certified areas		Areas under sustainable management	
	2005	2010	2005	2010	2005	2010	2005	2010	2005	2010
Africa	70,5	68,2	44	45,7	10	28	1,48	4,63	4,30	6,56
Asia-Pacific	97,4	108	72,5	62,8	55,1	58,0	4,91	6,37	14,40	14,50
Latin America	185	227	34,7	56,9	31,2	44,7	4,15	6,02	6,47	9,51
Total for ITTO producers	353	403	151	165	96,2	131,0	10,5	17	25,20	30,60

Notes: "Useable" refers to the area of the permanent forest domain designated for production that is suitable for use¹. "Certified" refers to Forest Management Units (FMUs) covered by sustainable management certification (FSC or PEFC) issued by an independent third party organisation. "Under management planning schemes" refers to areas where management planning is applied. "Under sustainable management" refers to areas which meet ITTO's definition of sustainable management, as verified on the basis of the following indicators (ITTO 2011) : (i) FMUs certified by an independent body or where it has been observed that progress has been made towards certification ; (ii) FMUs which have fully defined long-term plans (ten years or more) for forest management where there is definite information on the actual implementation of those plans ; (iii) FMUs considered to be model forest units in their own countries and for which high-quality management information exists ; (iv) FMUs managed by local communities with secure tenure/management rights and of which it is known that they are managed to high standards.

Source : OIBT, 2011, millions of ha

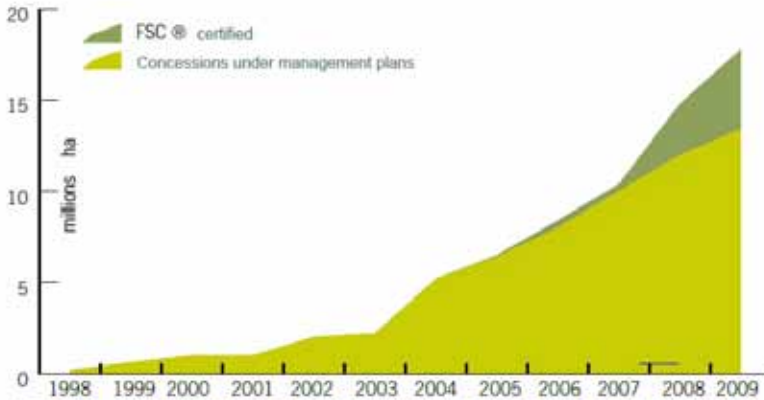
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In tropical countries, the areas of forest covered by management plans and management certificates are indicators of positive developments in the direction of the sustainable management of forests. The spread of management planning and certification has been rapid over the last five years in tropical forest regions, especially in Central Africa. Including management plans currently in preparation, in the near future management planning is likely to cover 28 million hectares, or approximately half of all forests designated for lumber production in the Congo Basin. French overseas aid has supported this dynamic during the decade from 2000 to 2010.

* ITTO (2011b) defines the permanent forest estate as follows: "Land, whether public or private, secured by law and kept under permanent forest cover. This includes land for the production of timber and other forest products, for the protection of soil and water, and for the conservation of biological diversity, as well as land intended to fulfil a combination of these functions. (...) In general, then, production PFE (...) comprises those tropical forests and planted forests (except those established solely for protective purposes) deemed to be accorded 'permanent' status."

Figure 11 The spread of forest management planning and certification in the Congo Basin

Source : OFAC, 2012



Given the substantial investment of French aid since the 1990s in the implementation of a sustainable management approach for forests designated for production in the Congo Basin on the basis of forest management planning, a large part of this chapter will be devoted to this geographical area, while also taking into account the experience acquired in other regions (French Guiana and the Amazon Basin in particular).

Sidebar 5 The AFD's ground-breaking role in forest management planning in the Congo Basin Forests

In the early 1990s, the Ministry of Foreign Affairs and the AFD initiated pilot projects in the field of forest management planning. The first results of those projects showed that companies had very little involvement in the process and that the assigned technical assistant, a planning expert, financed by French overseas aid, was working in isolation. This led to a refocusing of the pilot projects with the decision to work directly with companies. The first AFD support operation for forest management plans was the CEB loan in Gabon (€1.4 million in 1996), which led to the implementation of a forest management plan for what is a very large concession.

The AFD gradually broadened the scope of its support for forest management planning, improving the standards for drafting management plans and proposing to concession holders financial instruments better suited to their needs. To do this, the AFD provided direct loans and lines of credit in Congo, Cameroon and Gabon.

Alongside this, the AFD developed financial products targeting smaller concession holders, the so-called "small permits", for operators without sufficient financial resources to access bank credit lines. These projects were characterised by the provision of technical and financial support with technical assistance in national government

departments, providing direct technical expertise for the design of forest management plans for private operators, and capacity-building for forest administration. PARPAF in the CAR can be included in this group of projects. Two others have been implemented more recently: the “small permits” project in Gabon and PAGEF in Congo.

Gradually, French policy in favour of greater consideration for biodiversity has been increasingly reflected in action on the ground. A sharp rise can be seen from 2006 in FGEF activities, with the setting up of fifteen operations in the years 1999-2002, which can be explained by the predominance of the environment among the concerns of French aid. This has taken the form most notably of a wave of FGEF subsidies accompanying AFD loans for forest management plans.

D’après Samyn et al. (2011)

Forest management planning is an imperative prerequisite for the application of sustainable management. Nevertheless, it is simply a tool, and the results will therefore depend on long-term commitment by managers and authorities. Looking at tropical forests as a whole, management practices have not often been fundamentally modified by planning. Moreover, even if the legislation defining forest management is demanding in terms of preservation of natural resources, it is inadequately applied in most cases (Nasi and Frost, 2009). However, numerous stakeholders acknowledge the high quality of the majority of the management plans implemented in Central Africa compared with the practices that prevail in the other tropical forest basins.

The design of forest management plans is based on planning inventories and socio-economic diagnostic studies. The planning inventory of trees with diameters in the range 10cm to 20cm is intended to determine how stands break down in terms of species and age with a view to defining minimum cutting diameters for each species and rotation durations. These diameters are calculated according to the rate of species reconstitution in order to ensure proper renewal of the resource over several rotations. The durations stipulated in management plans are essentially based on data derived from the growth dynamics monitoring facility for production stands based at Mbaïki in CAR. This facility is therefore, seen in isolation, insufficiently representative of the diversity of existing ecological situations in Central Africa.

The rotation durations and cutting diameters chosen in the production context are subject to criticism since they are judged to be set at too low a level to permit renewal of the resource on an identical basis. A facility including test plots monitored over the long term and representative of regional variability is required to refine the management planning parameters currently applied. This is the objective of the DYNAFOR project supported by FGEF, which studies forest dynamics following logging based on a network of research facilities representative of the ecological situations actually observed in the Congo Basin. In addition, insufficient consideration

is given in current management planning to the impacts of climate change on the natural regeneration of logged species. The CoForChange project (<http://www.coforchange.eu/fr/>) proposes a revision of management planning parameters to take account of advances in our understanding of the climate.

Some management plans also include the identification of certain plant formations, wetlands and the most vulnerable ecosystems, in addition to partial wildlife inventories.

And lastly, where socio-economics are concerned, the management planning approach is aimed at identifying and characterising villages and river encampments in forest concessions, collecting information on social and demographic trends and assessing requirements for farmland.

The multifunctional character of the management planning approach can thus be seen to be of central importance.

2. Improvement of the social and environmental aspects of management planning

Despite undeniable progress in terms of the quality of the management planning approach over the last ten years, certain limitations have been documented and acknowledged, notably in terms of environmental and social aspects (Billand, 2005; Pierre and Cassagne, 2005).

When inventories are conducted, data acquisition is largely restricted to species producing marketable timber. The rarest non-tree species that may be of remarkable biological interest or endangered by particular threats are very rarely identified. The small amount of additional information collected relates essentially to the presence of headline species – especially the larger fauna. The most sophisticated inventory methods that would allow densities to be estimated are very rarely used. Many wildlife species (birds, reptiles and other families) are totally ignored in management inventories. It is quite often the case that operators locate conservation areas in zones that are the least rich in marketable timber and/or the least accessible (Durrieu de Madron et al., 2011).

In social terms, issues relating to consideration of the needs and aspirations of local people are insufficiently addressed. The understanding of such issues (places of worship, hunting grounds, etc.) is generally inadequate, as is the capacity for consultation with local communities, which requires specific expertise. Little account is taken of local economic development in management plans.

In this way, the multifunctionality of forest management is highlighted in inventories and preliminary analysis of the situation but insufficiently at a later stage in terms of the methods and actual implementation of the management plan.

The management planning approach is aimed at the staged internalisation of the social and environmental externalities of logging, but does

not address priority issues, the main priority being commercial logging, as is shown by the study recently conducted by AgroParisTech and the AFD (cf. Sidebar 6).

Sidebar 6 What consideration is given to environmental issues in the sustainable management of tropical forests?

Sustainable forest management has become the dominant paradigm where the management of forest areas is concerned. However, little work has been done to take stock of the way in which sustainable forest management has actually taken such environmental factors into consideration. The study conducted by Leroy et al. (2012) has led to identification of the various management schemes promoted for sustainable forest management, which were grouped into three categories: schemes aimed at improving the exploitation of forests, those aimed at exploiting carbon storage and those aimed at enhancing the involvement of the local populations. These are the main operational responses of sustainable forest management to urgent environmental issues. While these schemes tend to hybridise in order to integrate the three pillars of sustainable development more effectively, the economic dimension, that is to say essentially the profitability of commercial logging, remains the central issue. The idea that the internalisation of externalities is sufficient to ensure sustainability leads to a situation in which very few measures are put in place to verify that forest sustainable management is actually applied and is effective.

In general, it is still essentially environmental impact studies that concentrate minds on the processes that damage tropical forest ecosystems and the compensatory measures, but they are largely conducted before the fact and structured around sectoral projects. They seem to be less systematic in the forest sector, although they are tending to develop. The ground lost can be put down to two causes, firstly the forest sector sees itself as the guardian of the resource and therefore as greener and more sustainable than other economic sectors, and secondly the efforts it is making to put forest management planning in place and new sustainable forest management schemes such as forest certification, carbon projects and participatory forest management projects, seem to the sector to be a response to environmental issues and for that reason do not justify environmental evaluation or justify it only to a limited extent. Furthermore, practically no measures for ex-post environmental monitoring or evaluation of the various sustainable forest management schemes has been implemented despite the fact that many such measures have been operational for several years.

The results of this study thus highlight the necessity for sustainable forest management to clarify its environmental goals and issues and assess the environmental effectiveness of its methods in the light of those issues. It is also imperative to develop strategic environmental evaluations of the forest sector and to decompartmentalise an approach that is still highly sector-based by looking at all supply chains with a potential impact on tropical forests. Reflection on the actual place of the forest sector and its sustainable management in relation to the other sectors of activity must be conducted, including discussion with the conservation sector.

Extract from a paper by Maya Leroy, AgroParisTech-GEEFT and Tiphaine Leménager, AFD



Forest in French Guiana © Xavier Remongin, ministry of agriculture, agrofood and forestry

Environmental law and the rights of local populations are often out of phase with the nature and scale of the threats linked to industrial logging. Although logging-related aspects are controlled (economic sanctions where logging is excessive) there is no equivalent and, specifically, there are no sanctions provided for in law, for the social and environmental aspects. Moreover, logging companies and members of forest administrations are not trained to take account of the social and environmental aspects.

The objective of forest management certification based on voluntary schemes is to strengthen the management planning approach, notably with regard to the social and environmental aspects. At the present time, two broad systems of forest management certification cover virtually all the world's certified forests. One is the FSC (Forest Stewardship Council) set up in 1993 at the initiative of the major environmental organisations and the other is the PEFC (Programme for the Endorsement of Forest Certification), which brings together regional and national certification bodies set up at the initiative of stakeholders in timber industries and national governments. Certified areas of tropical forests are relatively limited compared with boreal and temperate forests. FSC-certified areas of tropical and subtropical forest currently total 18 million hectares (FSC, 2012), which represents approximately 12% of all FSC-certified forest land. Unlike the FSC, the PEFC has as members organisations that historically came into being for the certification of forests in the countries of the North, which explains their lesser

penetration of tropical regions. Nevertheless, with the recognition of certain national tropical forest certification systems such as the Malaysian Timber Certification Council (MTCC), which has certified a total of 4.5 million hectares of forest, the role of the PEFC is growing in tropical forest certification. It is also worth noting that an initiative aimed at developing a Pan African Forest Certification (PAFC) was launched several years ago, and this offers prospects for future certification, particularly in Gabon.

To complement management planning, adherence to a number of environmental management measures is required by certification systems. Those measures relate essentially to the protection of wildlife, reductions in the logging of commercial species, the application of low-impact logging methods enabling water courses to be better protected and to prevent erosion more effectively and the protection of a number of trees located in zones of high ecological value for conservation.

Recent work on the analysis of the environmental and social effects of FSC forest certification (Peña-Claros et al., 2009; Van Kuijk et al. 2009, Billand, 2010) highlight the improvement of management methods generated by forest certification, and this seems to have a beneficial environmental and social effect in terms of biodiversity conservation for example, although the quantification of such impacts is not possible. From the socio-economic standpoint, the livelihoods and working conditions of employees of the large certified logging companies in tropical regions have generally improved, with certification imposing criteria for social improvements (hygiene, occupational safety, education, health, vocational training) and local employment, which are regularly verified and the positive social impacts of which are acknowledged.

Despite this, the effectiveness of certification is still controversial. Several NGOs such as WWF believe strongly in FSC forest certification while for other observers (Ozinga and Krul, 2004), certification simply acknowledges methods that are already in place. The NGOs Rainforest Foundation and Friends of the Earth are even more critical of certification schemes. Where Greenpeace is concerned, despite its membership of FSC it has argued in the FSC General Assembly for the suspension of forest management certificates issued in the Congo Basin, considering that the conditions required for the development of forest certification are not met in regions where illegality and corruption are widespread. Audits have been commissioned by the FSC from Accreditation Services International (ASI) to assess the validity of certificates issued in Central Africa. NGOs critical of certification also raise doubts regarding the long-term effects of certification on forest management. Since certification continues to be a voluntary market mechanism, any change in the motivation of companies holding certificates, notably in the event of their take-over by less virtuous firms, will inevitably call the worth of the certificate into question.

3. A system finding it difficult to include all stakeholders

Since the 2000s, forest management planning has been a principle integral to the new codes of forestry law and it is applied in most of the countries of Central Africa (other than the DRC) on large concessions managed by the biggest corporations in the logging industry and with the support of international donors. Several major logging companies operating in Central African forests have thus benefited from French programmes supporting the implementation of management planning. Aligned with the action of the AFD over the last twenty or so years, such programmes for support of forest management planning have helped consolidate the most socially and environmentally responsible practices of such companies.

Much logging continues to be carried on outside any management plan, and specifically by small and medium-sized enterprises and large operators that do not export to European or American markets. The latter are for example Asian operators that have been investing massively since the 1990s in the tropical forest regions, essentially in order to export rough wood to Asia. In such cases, the impact of pressure from the markets or environmental NGOs is negligible.

The generalisation of forest management based on planning to include all operators is dependent on the ability and desire of market operators to apply the legal provisions of management plans, on the capacity of markets to incentivise and encourage the industry to adopt voluntary certification and the ability of the authorities to withstand external pressure (from the mining and oil extraction industries, smallholders, agroindustry). Moreover, the technical and administrative arrangements for the implementation of forest management plans and certification will need to be adjusted to suit the management of much smaller areas of forest than the first concessions covered by such plans.

Recent AFD projects have been aimed at helping generalise forest management planning to include all such stakeholders, with all the difficulties that that implies. *“This tool [forest management planning], as developed at the present time in the Congo Basin, [...] is much more difficult to implement for “small permits” since it is too cumbersome and costly for such small operators.[...] There are doubts as to the relevance of using public funds for private-sector actors many of whom abide by no ground rules (payment of tax, adherence to forestry regulations)”* (Samyn et al., 2011).

In addition, undercapitalised economic operators active in informal timber production supply chains are an additional category of stakeholder subject to very little control. Forest management planning and certification have until now had no influence over such artisanal sectors which essentially supply local and regional markets with ever-increasing volumes, although some major international traders do procure supply from artisanal operators. In this context, it is not certain that the countries of Central Africa will succeed

without making adjustments in generalising the effective implementation of management plans to include all stakeholders. The artisanal sector has developed substantially in parallel with the extension of management plans and should be made a focus for proposal of targeted programmes. The FLEGT programme could help provide a framework for the regulation of artisanal activities, on condition that it includes measures focused on that sector.

4. What content and what costs for the implementation of sustainable forest management?

The need for technical skills in the implementation of sustainable forest management

Given their scope, and the strategies for the development of forest industries developed by some tropical countries, it now seems to be generally accepted that commercially exploited forests will play a fundamental role in biodiversity conservation in the future, as the results of the recent IUFRO conference has shown (IUFRO, 2011). This role can be taken on only if management measures are applied in a way that guarantees the long-term viability of forest resources and the core services provided by forests (Sist et al., 2012).

Based on France's experience with the ONF in Guiana (cf. Sidebar 7), sustainability requires extremely long rotation cycles (65 years), selective logging of commercial species (approximately 5 trees harvested per hectare, or 25 m³/hectare), precise georeferencing of trees to be cut down and low-impact logging practices such as the optimisation of forest tracks are all measures that guarantee excellent quality, sustainability and good management but they also increase production costs.

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In the context of Guiana, the ONF acts as a public body charged with the management of the forests and has the benefit of the financial support of government, local authorities and the European Union. Conversely, in most tropical forest countries the responsibility for implementing the main forest management measures is borne by private-sector operators.

¹ Research priorities in tropical silviculture : towards new paradigms. Colloque CIRAD, CIFOR, GIP ECOFOR et IUFRO : 15-18 novembre 2011, Montpellier.

Sidebar 7 Forest management planning in France's overseas forests: French Guiana and Martinique as examples

The ONF manages 5.7 million hectares of forests in France's overseas territories. Those forests are home to an exceptionally rich and diverse wealth of biodiversity which is both vulnerable and under threat. For this reason, the ecological function (preservation of biodiversity and the environmental functionalities of ecosystems) is of fundamental importance. The social function is also essential: this is because on the coast, as well as inland, forest species make a major contribution to the attractiveness of this territory to tourists. Forests are also an important source of employment in regions where unemployment is high. And lastly, the productive function is of very limited importance except in Guiana, where 80,000 m³ of timber is produced annually, a very low figure compared with the areas involved and French production as a whole.

The forest estate is subject to high levels of pressure from human activity, which requires determined and continuous investment in land preservation.

As is the case in metropolitan France, the application of the Forestry Regime involves first and foremost giving each forest a system of management planning that defines the different issues, ranks them by importance and schedules the action that flows from that.

Forest management planning in the permanent forest estate of Guiana. This forest estate covers 2.3 million hectares. Adopting an embedded spatial zone approach ranging from the whole of Guiana's territory down to the individual forest management unit, areas (working circles) designated for protection and those designated for production are defined. That definition is preceded by diagnostic study of the situation on the ground (in ecological and dendrometric terms) before moving on to detailed planning of logging activities (prior spatialised inventories of the areas to be covered, execution of skid trails and landing areas by the ONF, cutting down of trees under controlled conditions, optimisation of secondary skid trails, etc.).

Management planning for Martinique's coastal forest estate. This forest has very major specific characteristics that need to be taken into account: important heritage and ecological issues; major pressure on land; tourist sites of importance for the island. In light of these specific features, three management objectives have been defined: (i) acceptance of the general public (on 4% of the area), prioritising quality within the limits set by protection of natural environments; (ii) general protection of the natural environment and landscape (79% of the area) with regard to working circles that possess general ecological interest; (iii) specific protection for habitats of major ecological interest (14% of the area): restoration of turtle nesting sites, protection of seabird breeding sites, mangrove conservation.

Claude Rupé, ONF

How should the implementation of sustainable forest management be adjusted?

In the Congo Basin, the progress made by forestry research shows that reconstitution of the various tree species of commercial interest is tending to decline in commercial forests because rotation duration is insufficient, minimum cutting diameters are too small and/or the openings cleared in the tree cover are too small, preventing the reconstitution of some species. Forest management planning standards are based on circumstances insufficiently representative of the reality of growing conditions for the species harvested. In the case of some forests, the CoForChange project demonstrates that the local ecology can support forestry work following logging, such as for example the removal of lianas from future trees, clearing spaces and adding to commercially valuable species in order to guarantee sustained and sustainable production of forest products (Peña-Claros et al., 2008, Villegas et al., 2009). However, such work has a cost that is still poorly defined and not all operators are ready to accept it, although such forestry practices are indeed a factor for improvements in their revenue over the longer term. Following intense research into forestry and economic studies during the 1980s, this model has been abandoned due to its lack of economic viability. Although well-capitalised companies still have some room for financial manoeuvre, this is not the case for the very many small operations with significantly more limited financial resources. Given that economic conditions have moved on since the 1980s, it would be appropriate to test whether a new business model that includes forestry might now be viable.

The issue of the costs arising from sustainable management is fundamental and the allocation of those costs between the various actors remains to be defined. Forest management planning generates costs to be borne by the private company. Conversely, the funding of local development infrastructures that often goes hand in hand with the management planning approach (construction of schools, dispensaries and sports facilities, for example) should also fall to some extent within the remit of the public sector either nationally or at local authority level. The cost of preserving global public goods can also be mutualised at global level through innovative financing mechanisms. Indeed, if this is not done, if the entire burden of those costs falls on logging companies, there is a high risk that sustainable practices will not be applied. In this connection, it may be relevant to seek additional finance in order to address the difficulties of allocating such costs, in part through mechanisms for remuneration of environmental services of the REDD+ type. This proposal is however not accepted by all those involved. Some NGOs such as Greenpeace consider that the use of mechanisms to remunerate environmental services is unjustified since the effects of low-impact logging on carbon stocks do not appear to be measurable due to the many methodological uncertainties affecting estimation of the biomass (Durrieu de Madron 2011).



Reduced impact logging, Mindourou area, Cameroon. © Stéphane Guéneau, CIRAD

The case of French Guiana, for which scientific research into forest management and carbon is extensive and where managers have an overarching, long-term vision, might turn out to be a useful testing ground for answers to these questions to be found from the standpoint of voluntary markets.

As for forest management certification, while it provides easier access to markets and highlights certain factors for environmental quality, it also imposes costs due to upgrading to meet standards and control, costs that not have not been proven to be offset by commercial benefits. Its incentivising effect therefore remains limited.

5. Stronger law enforcement

Many observers point out that limited enforcement of the law continues to be a central problem in many tropical forest countries. Several factors are usually cited to explain this absence of rigorous control on the part of official agencies: a lack of resources and expertise, lack of training of personnel for the enforcement of new regulatory provisions, inadequate organisation, corruption issues, and so on. Given this, forest management plans are in some cases merely administrative formalities and the degree to which planning measures are applied can vary extremely widely.

In such a context, private-sector certification is a control tool that frequently stands in lieu of official action by forest administration agencies. This *de facto* delegation of control duties to the private logging sector is problematic insofar as, firstly, it covers only a small proportion of forestry operators – i.e. those most inclined to obey the law – and secondly, it does not encourage governments to involve themselves more in forest management. The question arises of whether there should perhaps be greater emphasis on support for law enforcement by all operators rather than virtually exclusive support for private-sector control schemes. In this connection, France’s investment in the implementation of the FLEGT action plan, which is aimed at improving law enforcement and governance in tropical regions, deserves to be pointed out. As we shall see below in the chapter devoted to the tropical timber trade (cf. Chapter II.D), rather than seeing private certification schemes as opposed to public instruments, it would be more appropriate to ensure that they are more mutually complementary.

6. Models other than the industrial logging concession

The promotion of sustainable forest management systems that offer alternatives to the model of the industrial logging concession, and which would be beneficial to local forest communities, is a position widely supported by national and international NGOs.

Although tropical forests are inhabited by indigenous and traditional local communities, it is in fact very rare for the latter to be put officially in charge of the management of a major part of the national forest territory, France included (cf. Table 3 and Sidebar 8). In tropical countries, the national forest estate can in some cases be allocated to local authorities or forest communities for the exploitation of forests for logging or forms of non-wood harvest, but this situation is relatively rare. Approximately 20% of tropical forests is said to be officially administered by local communities (White and Martin, 2002). Nevertheless, the fact that a community does not own the forest does not rule out its having resource usage rights in many cases. In reality, a very large proportion of public forests is in fact managed by indigenous peoples and communities without the forest always having the benefit of an official legal status as a community forest. This is particularly the case for the non-permanent forest estate in most of the countries of Central Africa

The results of forest management by local communities are fairly mixed. In many cases, the traditional activities of forest communities have only a very limited impact in terms of deforestation and help preserve the forest (Molnar et al., 2004). However, community management has sometimes led to disastrous outcomes in certain countries, including Papua New Guinea, where local communities administer the majority of forests (White

and Martin, 2002). The level of sustainability of community management depends to a large extent on local economic and cultural history. Recently arrived local communities hoping for agricultural conversion (like the Indonesian transmigrasi, pioneer fronts or the workforces established for industrial logging projects) frequently have no economic interest in managing the forest sustainably – indeed, quite the contrary.

Table 3 Estimated breakdown of tropical forest ownership

Public		Private	
Administered by government	Reserved for indigenous and local communities	Communities / Indigenous population	Individuals/Companies
71 %	6 %	13 %	10 %

Source: White and Martin, 2002

Sidebar 8 Overview of the status of tropical forest communities

In Central Africa, the forestry legislation in Cameroon (1994), DRC (2002), Gabon (2001) and CAR (2008) has established community forest management rights for defined periods, mainly in the non-permanent forest estate. However, at present only Cameroon has issued implementing decrees to enable these legal provisions to be applied. Certain forest communities in Cameroon hold temporary logging permits (usually for 25 years) for plots of up to 5,000 hectares in the non-permanent forest estate (Ruiz-Pérez et al., 2005). Some NGOs report that the zoning plan defined in Cameroon has not allowed pygmy communities to secure their land rights because the community forests have been located far from their traditional hunting and gathering territories (Long, 2007). In the DRC, the rights of communities within concessions are limited to permission for use. Like other countries in the region, the institutional framework seems inadequate to allow the local population to be genuinely involved in forest management, especially given the absence of any real forest zoning plan (Trefon, 2008).

In Indonesia following the fall of President Suharto, the government made drastic changes to national forest policy, authorising local communities to access forest resources to meet their subsistence needs. Following this, concessions were granted to them, but for very short periods. Latin America is the continent where rights to the use of forest land are the most favourable to local communities. In Mexico, approximately 80% of the forest estate is managed by local communities (Bray et al., 2005). In the eight Amazon Basin countries the forests administered by communities are relatively extensive, totalling a million square kilometres, equivalent to the land area of Bolivia, following redistribution efforts initiated in 1985 (White and Martin, 2002). In the Pacific zone, indigenous and local communities in Papua New Guinea hold 97% of the forest land (White and Martin, 2002).

And finally, in French Guiana, Amerindian communities enjoy use rights acknowledged in the code of forestry law for clearly delimited areas. These usage areas are covered by the forestry regime, are not exploited by the ONF and allow the communities of local

inhabitants to continue their traditional management practices. Applications have been made for the extension of usage rights zones to seven municipal areas and these are currently under consideration.

In Amazonia and Latin America generally, rural populations play an increasingly dominant role in the management of forest resources. In the Brazilian Amazon for example, protected areas mainly occupied by traditional and indigenous populations account for 40% of the whole area. However, the majority of these protected areas can in fact be exploited on condition that a management plan is submitted, which is then subject to the approval of the competent authorities. A recent study considered that other than indigenous lands with a quite separate status, protected areas likely to be placed under management planning and managed by local populations locales represented around 34 million hectares. If private and public land areas following the agrarian reform are taken in account, the total area would stand at 46 million hectares – an area comparable with that of the concessions (Sist, 2010). Genuine public policies for the support of community and family forest management have been put in place in some Amazon states such as Amapa, Amazonas and most notably Acre. In Bolivia and Ecuador, traditional populations have gradually gained recognition for their tenure and customary rights to exploit forest resources on their territory.

Sidebar 9 Community forest management in the State of Pará, Brazil

The local population and farmers are major stakeholders in forest management in Brazil's State of Pará. A main reason for this is the specific land situation: Pará has 201 million hectares of forest. Half of this is on land occupied by indigenous communities, 58% have conservation status authorising sustainable use. Only 40% of timber requirements can be met by industrial logging concessions, which leads forestry operators increasingly to establish partnerships with communities to gain access to the forest resource located to a large extent in agricultural colonies (assentamentos).

In those colonies, federal law requires that land use be split with 80% for forests (the statutory forest reserve) and 20% for farming and pasture. The activities conducted on the latter 20% are much more profitable per hectare than logging. The harvesting of non-wood forest products is a minor source of income. Where communities manage the logging themselves, the resulting income is twice as high as that generated under a contract signed with a logging company.

Since farming is economically more viable than logging, excessive forest clearance in the statutory forest reserve is standard practice and requires greater local presence on the part of the official forest administration. When controls limit the temptations of illegality, local communities take more interest in developing forest management plans.

Frédéric Castell, GRET

Certain experiments in community forest management in the Brazilian Amazon show that results improve in socio-economic and environmental terms when agricultural communities manage forests compared with the situation in which those communities sign contracts with logging companies, which is frequently the case due to the attractiveness of the short-term gains involved (cf. Sidebar 9).

Support for these forms of community management that allow forests to be preserved and managed sustainably could be envisaged, in particular through systems of payment for environmental services and REDD+ funding. It would also seem to be relevant to seek greater integration of forest management into systems of agrarian production as part of a redefinition of public policies and building on acquired experience. And finally, where communities are relatively unstructured and it seems difficult to identify leaders who could take responsibility for project management, it may prove useful to support representative local authorities. In the view of some observers, such local authorities have in fact greater legitimacy than local communities and should, on this basis, be the main actors in decentralised management. However, the delegation of management to municipalities can sometimes lead to private appropriation of forest revenue by a small elite (mayors and heads of clans) to the detriment of the local forest population. However, this situation is not the general rule and in many cases the outcome of municipal forest management is positive.

The majority of developing countries now promote decentralisation policies aimed at entrusting management of their natural resources to local government. In the forestry sector, some countries have already put legislative provisions in place to allow local government to manage their forests sustainably. French overseas aid supports such initiatives,

Wood processing in forest, Sumatra, Indonesia. © Hubert de Foresta, IRD



which promote an improved sense of ownership and the addition of value by the local population to their natural resources. The purpose of such projects is to promote the protection and sustainable management of forests as an adjunct to the process of decentralising government through the strengthening of networks of municipal forests. Their priority is to build structured networks of municipal forests under the leadership of motivated, trained mayors, supporting the latter in their requests for forest classification and then placing the forests under management plans as a guarantee of sustainable management, local development and increased rural employment (cf. Sidebar 10).

Sidebar 10 Decentralised forest management: the example of Méguet municipal forest in Burkina Faso

The community management system for Méguet forest (a dry forest ecosystem) was set up at the instigation of the local population due to observed degradation of the resource and biodiversity. Once the causes of this degradation had been identified (excessive logging, forest clearance, brush fires, carbonisation, overgrazing), an area of 450 hectares was designated for protection.

The decision process was initially characterised by interaction between the inhabitants of the village and the municipality to which it is attached and later by coordination with neighbouring villages and the government's forest services. Following a campaign to raise awareness and rally opinion leaders to the cause, a management committee was formed by a formal village meeting.

The management system adopted provides for a formal ban on all the abovementioned activities and controls the removal of medicinal plants. Adherence to the rules is verified by patrols. Alongside this, activities are conducted to raise awareness and the boundary of the protected area is clearly marked, firebreaks and rock barriers (to help prevent erosion) put in place, and replanting carried out.

Investments are also being devoted to the implementation of economically viable exploitation of the resource, with a view to sustainable management: creation of a market in deadwood, acquisition of logging equipment, conducting forest and plant inventories, opening up tracks, training the management committee, and so on.

The project has cost a total of €22,500 split in three equal thirds between the government, a Dutch donor body (Maastricht committee) and the local authority itself. The net outcome after three years appears positive and a larger-scale project is currently being set up. With support from COFOR international, the FGEF, the World Bank, Seclin municipality and Nord-Pas-de-Calais regional authority, this will raise nearly €3 million as an integral part of the REDD+ programme.

Pierre Kaboré, maire de la commune de Méguet

7. What should be the policies for the sustainable management of forests designated for production?

The sustainable forest management approach has enabled progress to be made on certain points: the institutional framework has moved significantly forward with forest regulations that now include forest management planning as an obligation and a standard to be met for sustainable management. This framework has been strengthened by various reforms linked to the system for allocating concessions. It is also founded on policies and strategies at national and regional levels which make forest management planning an indispensable component of forest management. This means that such planning has major strengths to ensure its long-term survival.

Sidebar 11 The social sustainability of forest management planning: the importance of the regional development project in the southwest of the CAR (PDRSO)

Thanks to the government's unwavering commitment to the private sector since 2001 under PARPAF (Project d'Appui à la Rédaction des Plans d'Aménagement Forest / Project for support of forest management plan design) with AFD funding, the major part of the forest area designated for production in the southwest of the Central African Republic is now under sustainable management. As a consequence, the country has very extensive knowledge of its forest resources and can thus model over the long term and with comparative accuracy the financial spin-off for the government and the share due to the local authorities involved, on the basis of a forest tax regime linked to the timber production potential of permits. This favourable context argues for the implementation of a project to support local development across the territory of the south-western forest zone, in conjunction with sustainable forest management.

Indeed, although logging provides, through the logging companies based in the forest area, direct benefits for the populations located near the sawmills, benefits in terms of employment, social programmes, and indirect through payments to the national treasury of tax passed on to municipalities, it is apparent that these forest municipalities do not have the capacity to mobilise the resources thus allocated to conduct socio-economic development programmes. In most of the villages in the areas concerned, virtually no services are provided either by national government or local authorities due to a lack of both priority requirement planning and efficient management of forest tax revenue.

As a consequence, the project provides, in an initial phase, for capacity building for municipalities acting as project managers to enable them to plan their own socio-economic development and manage rationally their financial resources, which consist essentially of forest tax revenue, with a view to improving their living conditions and reducing poverty in the relevant population. The project will also help reinforce local governance by initiating local inhabitants in participatory municipal life based on

regular dialogue between the local population and town councillors.

Upstream of support for forest municipalities, the project provides for institutional reinforcement with the Ministry responsible for forests in order to consolidate the achievements of forest management plans, which form a framework for the long-term development of this forest. This project component will have a crucial role to play in monitoring the production supply chain more closely, securing the forest revenue allocated to municipalities, and maintaining dialogue between logging companies, official administration and local inhabitants.

Thierry Liabastre, AFD

Despite this, in light of the abovementioned considerations, a consensus is building that points to the need to take more account of the social and environmental issues surrounding logging (cf. Sidebar 8). Specifically, biodiversity preservation programmes should give more consideration to the progress made in the area of forestry and ecological sciences. We shall return to this in Chapter II. G which deals with research.

Environmental assessments of forest management plans should be systematic, conducted at the point of initial implementation (ex-ante), during the logging (monitoring) and after the logging (ex-post), as some legislation on environmental and social evaluation already stipulates, the enforcement of which it would be desirable to support.

In the context of the Congo Basin, only some of the actors involved in logging apply management planning and forest management certification. The question therefore arises of what types of action might allow the other actors to engage in sustainable forest management. In this respect the efforts already made by French aid over the last few years should be continued in order to improve the application of the legislation. It can also be seen to be essential to place informal timber production supply chains within a legal framework. Enforcement and incentive measures must be considered (Lescuyer et al., 2012). Firstly, they should facilitate the issuance of official permits to artisanal sawmills on a legal basis adapted to fit the needs of local actors, including, among other measures, the decentralised allocation of logging permits. Secondly, the professionalisation of artisanal sawmill operations should be encouraged.

Given these limitations, it would also be appropriate to pursue efforts to rebalance the programmes of French aid in the tropical forest sector by prioritising the implementation of sustainable forest management by small operators and local communities through projects to support the community-based and municipal management of tropical forests.

Management planning for productive tropical forests is a major development of the last twenty years. The model needs to be perfected if it is to produce enhanced social and environmental benefits. Models other than managed concessions must also be encouraged.

B. TROPICAL FORESTS DESIGNATED FOR PROTECTION: WHERE DO THE CONSERVATION AND RESTORATION MODELS STAND TODAY?

The conservation of many species is endangered by the destruction of their habitats. As a consequence, many governments are deciding to place certain carefully delimited areas in reserve, or to regulate human activities there. The commitments given under the Convention on Biological Diversity recall the importance of conservation and sustainable management of tropical forests, these being the terrestrial ecosystems richest in biodiversity. The designation of parts of tropical forests for protection is for this reason one of the keystones of conservation policy.

Given the great variety of forms of protection applied in the countries involved, in 1994 the IUCN put forward a standard definition and a set of categories of protected area in reference to an international plan. That definition has recently been amended: a protected area is *“a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long term conservation of nature with associated ecosystem services and cultural values”* (Dudley, 2008).

The inclusion of the concept of ecosystem services has thus broadened the scope for action of protected areas which are no longer restricted to protecting biodiversity, but must also take account of the maintenance of ecosystem services such as the protection of water catchment areas or carbon sequestration. Moreover, protected areas recognised by the IUCN are not simply those that have been officially created and are managed by governments and NGOs, but may also include territories self-declared as such by local and indigenous communities. It is also worth noting that in addition to the IUCN categories, there are also sites designated by countries and given international recognition by UNESCO under its intergovernmental programme “Man and the Biosphere” (MAB) (cf. Sidebar 16) and those classed as part of World Heritage.

Protected areas are classified in six broad categories for protection, of which the first is subdivided into two sub-categories (cf. Table 4). The first four categories are considered to constitute strict conservation zones insofar as only extremely limited and tightly controlled human activities are tolerated within them. The last two categories permit certain forms of forest use, although their central objective is still biodiversity conservation (UNEP-WCMC, 2008).

Table 4 IUCN protected area categories

Category Ia	Strict Nature Reserve: a protected area placed in reserve to protect its biodiversity and also, possibly, geological or physiological features and/or species. Visiting, use and human impact are strictly controlled and limited in order to ensure protection of conservation assets. Such protected areas may serve as reference sites essential to scientific research and long-term monitoring.
Category Ib	Wilderness Area: a large area of unmodified or only slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition.
Category II	National Park: a large natural or virtually natural area placed in reserve to protect large-scale ecological processes and the region's species and characteristics, which also provide a foundation for spiritual, scientific, educational, recreational and visitor opportunities, all of which must be environmentally and culturally compatible.
Category III	Natural Monument: an area placed in reserve to protect a specific natural feature, which may be a topographical feature, a mountain or an underwater cave, a geological feature such as a cavern or even a living element such as an old isolated woodland. These are usually fairly small protected areas and often possess great importance for visitors.
Category IV	Habitat/Species Management Area: the purpose of such areas is to protect specific habitats or species and their management reflects that priority. Many category IV protected areas need regular and active intervention to meet the requirements of specific species or to maintain habitats, but this is not an actual requirement for this category.
Category V	Protected Landscape/Seascape: an area where the interaction of people and nature over time has produced an area of distinct character with significant ecological, biological, cultural and landscape aesthetic value, and where the safeguarding of the integrity of that interaction is vital to the protection, maintenance and evolution of the area, the conservation of the associated natural environment and other valuable assets.
Category VI	Managed Resource Protected Area: a protected area dedicated to the preservation of ecosystems and habitats, along with cultural values and associated traditional systems for the management of natural resources. They are usually extensive and most of their area is in a natural state. A proportion of that area is subject to requirements of sustainable management of natural resources. Moderate, non-industrial use of natural resources compatible with the conservation of nature is considered to be among the main objectives of such areas.

Source: Dudley, 2008

The increasingly close involvement of governments, local authorities, nature conservation NGOs, forest communities, the private sector and scientists in the management of protected areas is leading many actors and institutions to consider that such areas constitute one of the most effective means of conserving biodiversity at the present time, especially in tropical forests (UNEP-WCMC, 2008; Brooks et al., 2009). While it is true that some protected forest areas have suffered substantial degradation, in Sumatra for example, where some have lost over 80% of their forest cover in thirty or so years (Gaveau et al., 2007), this situation cannot be said to be the general rule. Some recent research shows in fact that deforestation is more limited in protected areas than in comparable non-protected areas (Nelson and Chomitz, 2009).

In addition to protected areas, other conservation strategies can usefully supplement the range of actions specifically dedicated to the protection of tropical forest biodiversity, in particular those for the rehabilitation of degraded forest land and those for the management of wildlife.

1. Maintaining ambitious conservation targets

Many nature conservation and scientific organisations have long been asking for specific conservation targets to be defined at international level in order to extend the coverage of protected areas. Where natural forests are specifically concerned, for which it is generally accepted that they contain habitats of very great value for biodiversity conservation, in 2002 the Convention on Biological Diversity (CBD) called on the Parties to “establish adequate and effective networks of forest protected areas” (Expanded Programme of Work on Forest Biodiversity, Decision VI/22). At COP IX in Bonn in 2008, the CBD ratified Decision IX/5 urging Member States to *“strengthen efforts to establish, maintain and develop national or regional forest protected area networks and ecological connectivity, where appropriate, and identify areas of particular importance to forest biodiversity, taking into account the target of having at least 10 per cent of each of the world’s forest types effectively conserved (...) and further strengthen efforts to provide for sustainable financing of forest protected areas, from all available sources, including innovative financial mechanisms for the establishment and effective management of forest protected areas.”*

COP X held in Nagoya in 2010 resolved to raise the targets in terms of the extent of protected areas. By 2020, at least 17% of terrestrial areas must be conserved under a representative network of protected areas that are effectively managed, connected and integrated into the wider landscape, especially areas of particular importance for biodiversity and ecosystem services (Strategic Plan for Biodiversity 2011-2020, Decision X/2).

According to the most recent statistical research available, a great deal of progress has been made in terms of expanding the network of forests with protected area status, since they now account for 13.5% of global forest land (Schmitt et al., 2009). An area of over 460 million hectares of forest has been essentially dedicated to biodiversity conservation (FAO, 2010). Protected forest areas have expanded by over 95 million hectares since 1990 and 46% of protected areas were created between 2000 and 2005.

Where tropical forests are specifically concerned, the most recent estimates set protected area coverage at around 20% (Herkenrath et al., 2007; Jenkins and Joppa, 2009). France has contributed to this effort with the creation of the national park on Reunion Island and the Amazon National Park in Guiana in 2007 (cf. Table 5).

However, there are quite marked regional differences (cf. Table 5), since the coverage of Amazon protected areas is comparatively greater than in other tropical forest regions, particularly following the creation of

new conservation units in Brazil, where the percentage of protected area increased by 19 points over the years 2000 to 2008. These efforts must therefore continue, especially in tropical forest regions where protected area expansion is slower, taking as a basis recent concepts such as “Intact Forest Landscape” (IFL) for example (Potapov et al., 2008). In 2010, IFL was estimated at 371 million hectares, the equivalent of the land area of the Congo Basin. A net loss of IFL of 24 million hectares has been registered since 2000. Only 6.7% of tropical IFL is located in a protected area.

Table 5 Areas of tropical rainforest biome designated for protection in 2008

	Total		Latin America and Caribbean		Africa		Asia	
	Millions of hectares	Percentage of biome	Millions of hectares	Percentage of biome	Millions of hectares	Percentage of biome	Millions of hectares	Percentage of biome
Total forest	1 315,5	100,0 %	698,9	100 %	253,0	100 %	363,6	
Protected areas	362,0	27,5 %	271,9	38,9 %	41,2	16,3 %	48,9	13,4 %
Strict (I–IV)	113,0	8,6 %	71,4	10,2 %	15,1	6,0 %	26,5	7,3 %
Multifunct. (V–VI)	103,9	7,9 %	90,7	13,0 %	2,6	1,0 %	10,6	2,9 %
Unclassified	54,4	4,1 %	21,6	3,1 %	21,6	8,6 %	11,2	3,1 %
Indigenous population reserves	85,0	6,5 %	85,0	12,2 %		-		-
Others	5,7	0,4 %	3,3	0,5 %	1,8	0,7 %	0,6	0,2 %

Source: according to Nelson and Chomitz, 2009

The interior of the Guiana Plateau is a particularly important area of IFL, and is already benefiting from a continuous range of protected areas (Guiana Amazon National Park in France and the Tumuc-Humac National Park in Brazil). Nevertheless, this area of major biodiversity and high ecological connectivity could be more effectively protected, especially from the threat of uncontrolled gold mining. The interior of Guiana and especially Suriname have no significant protected areas and efforts must be made on this, since this would contribute to forest conservation in the Guianese interior.

2. Improving protected area management

Although the official designation of a geographical area for protection confers upon it a legal status that has immediate effects in terms of protection (Dudley et al., 2004), it provides absolutely no automatic guarantee that its biodiversity will be conserved. Several protected areas have been created on paper without that designation being accompanied

by a clear conservation strategy or operational measures on the ground, two classic attributes of “paper parks” that result in extremely mediocre protected area management.

The most comprehensive study conducted up to the present time to assess management effectiveness included over 3,000 protected areas out of some 100,000 listed in the world protected area database (Leverington et al., 2008). The study shows that only 22% of the protected areas examined are well managed, 13% are judged to be totally ineffective and the management of the remaining 65% is barely satisfactory.

In Central Africa, where a major share of French action on tropical forests is concentrated, protected areas are often territories where management measures are the least effective or are non-existent. Research a dozen years ago demonstrated that over 40% of protected areas in Cameroon, Equatorial Guinea and Gabon appear to apply weak, ill-focused and temporary conservation measures (Doumenge et al., 2001), a situation that does not seem to have progressed greatly. Specifically, the WWF indicates that the proportion of protected areas that are unmanaged is much higher in the DRC, despite the commitment to extend the network of protected areas from 11% to 17% of that country’s territory.

Forestry services charged with verifying the integrity of protected areas lack staff, training and resources: a lack of vehicles, a manifestly insufficient number of ecoguards given the size of the territory to be controlled, limited capacity to sanction, and so on. In all tropical regions, the absence of any adequate response to the problem of illegal exploitation of resources within protected areas constitutes one of the main issues for the management of protected areas. Furthermore, the very low pay earned by park and reserve personnel increases the danger of corruption by the sometimes very powerful interest groups.

Protected areas are in some cases located near, or even inside areas considered highly desirable due to the presence of potentially exploitable mining and oil resources. The extractive industries invest substantially in tropical forest regions. It is important to evaluate correctly the impacts of industrial operations in protected areas on the basis of large-scale environmental studies. Assessment of environmental and social effects would allow preventive measures to be considered in order to preserve the interests of the local forest population and high-value biological resources. Schemes to mitigate the impact of mining operations on neighbouring protected areas should also be put in place. They would need to be supplemented by compensatory measures enabling new protected areas to be created. Industrialists could set up long-term funds to finance conservation.

In light of the above observations, a more generalised approach to the assessment of the management practices in protected areas is desirable. Based on an analysis of a number of key factors, the general effectiveness of protected area management in a specific country or region can be evaluated with a view to then taking the necessary decisions to improve management practices. This is for example the approach adopted by the WWF and the

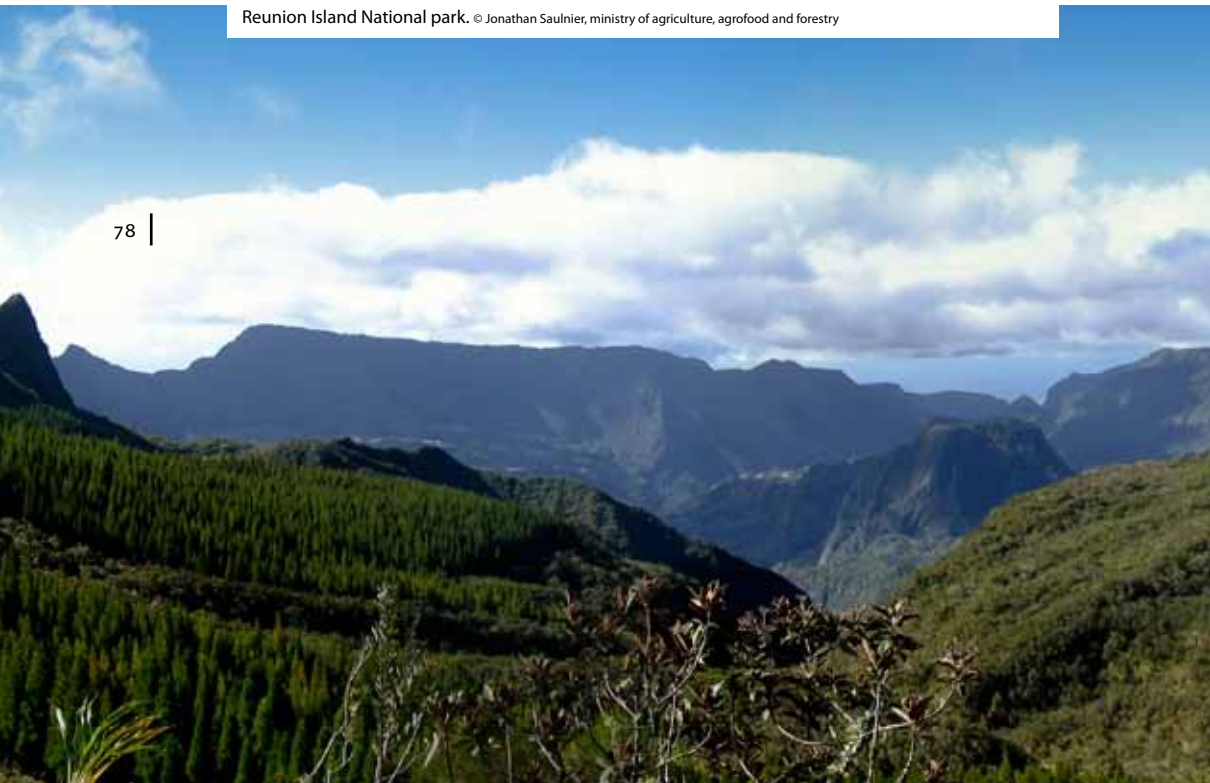
IUCN in Rapid Assessment and Prioritization of Protected Area Management (RAPPAM).

Improvement in protected area management usually correlates with the finance allocated to the practical application of management schemes: the financial resources needed to control harmful activities that develop within protected areas covering hundreds of thousands of hectares are very substantial. It therefore seems to be self-evident that the management of protected areas will improve only if extra funding is released, combined with better governance (involvement of the government and the local population). The means for control on the ground can however be improved at less cost in some cases by recognising certain rights of use and management for the local population. Since they are already on site and thus have an interest in protecting the resources, they can prove to be effective agents for control.

The funding of protected areas can be considered only from a long-term standpoint. Unfortunately, the reality is that the effectiveness of protected area management frequently correlates with the availability of funds allocated as part of conventional short-term project cycles. There is a need therefore for a change of scale in order to build genuinely effective business plans that enable the costs of protected area management to be assumed over the long term. Financial mechanisms such as trust funds or REDD+ financing programmes (cf. chapter II. E) have a major role to play in this connection by funding the design and implementation of Protected Area Management Plans.

Lastly, given the increasing scarcity of available financial resources, there arises the issue of the priority of conservation projects. It appears to be

Reunion Island National park. © Jonathan Saulnier, ministry of agriculture, agrofood and forestry



difficult to define a single target for projects to be financed in tropical zones given the great differences between local contexts. Alongside the funding of large protected areas, the benefits of the FGEF small project programme have for example been highlighted (cf. Sidebar 12). It would seem to be a judicious choice to use a range of instruments combining both small and large projects.

Sidebar 12 The Small Initiatives Programme

The FGEF's Small Initiatives Programme (Programme de petites initiatives – PPI) fosters increased involvement of civil society in conservation action. The programme subsidises small-scale projects conducted by civil society organisations with amounts not exceeding €50,000 or 50% co-financing. The projects are financed at the request of local communities on the basis of voluntary commitments and often promote innovative solutions well-suited to the local context. Such modestly sized projects are often considerably more cost-effective than major conservation projects.

Silvia Ritossa, Comité français de l'UICN

In addition, if management objectives and programmes are to be clarified, it is apparent that there is a need to improve the frequently patchy scientific knowledge of biodiversity. Similarly, little use is made of local knowledge in many cases despite the fact that it can in fact produce methods that favour the preservation of biodiversity. Awareness of the socio-economic and cultural logic underlying threats and pressure to species and habitats





Forest duiker, high value wild game in Central Africa. © Franck Ribas

is also fundamental. In this connection, SYVBAC (SYstème de suivi de la filière Viande de Brousse en Afrique Centrale), the system for monitoring the bushmeat supply chain in Central Africa, and monitoring developments in illegal gold mining in French Guiana are of great importance, providing guidance for conservation practice. Finally, and more generally, improvement in protected area management also involves ensuring effective assessment and monitoring of the main key compartments of biodiversity.

Sidebar 13 SYVBAC, the system for monitoring the bushmeat supply chain in Central Africa

The general objective of SYVBAC (SYstème de suivi de la filière Viande de Brousse en Afrique Centrale) is to generate the necessary information to underpin policy and strategy aimed at keeping bushmeat use and trade at sustainable levels. Its detailed objectives are to monitor: 1. the level and development of bushmeat use and trade in the region; 2. the factors that influence bushmeat use and trade; 3. the impacts of bushmeat trade on endemic/rare/protected species; 4. the importance of the bushmeat trade in national economies, poverty reduction, nutrition and the health of human populations. SYVBAC will provide governments and managers with an overarching national and regional vision on the status and trends of bushmeat harvest and trade. SYVBAC will contribute to the objectives of OFAC by expanding and sharing

available knowledge on the use and management of natural resources in the Congo Basin. The data collected will be summarised for regular inclusion in the “State of the Forests of Central Africa” report published by OFAC. The monitoring system will raise the alarm in the event of rapid changes calling for immediate attention, and generating results and lessons that have been learned from the various efforts to tackle unsustainable bushmeat harvesting and trade. Throughout the development phase of SYVBAC, capacity-building support at different levels will be provided by TRAFFIC and OFAC to collect and analyse data on bushmeat harvest and trade.

Nathalie van Vliet, TRAFFIC

Sidebar 14 The Great Apes Survival Partnership (GRASP)

Led by UNEP and UNESCO, the Great Apes Survival Partnership (GRASP) is an innovative and ambitious alliance of governments, conservation NGOs, the scientific community and private enterprise. GRASP was launched in 2001 at the Rio+10 Summit in Johannesburg, and subsequently formalised in the Kinshasa Declaration on Great Apes in 2005, taking up the immediate challenge of removing the threat of imminent extinction of species of gorilla (*Gorilla beringei*, *G. gorilla*), chimpanzee (*Pan troglodytes*), bonobo (*Pan paniscus*) and orang-utan (*Pongo abelii*, *P. pygmaeus*) across all their range areas in Equatorial Africa and Southeast Asia.

Scientists have discovered that chimpanzees and bonobos share 99.4% of the human genome, of which gorillas also share 99.7% and orang-utans 96.4%. Having studied them for decades, they have been able to reveal the complexity of their social interactions, their self-awareness, their remarkable intelligence and their ability to communicate using signs and symbols.

Twenty-three countries are home to natural populations of great apes, of which 15 are Least Developed Countries (LDCs). The survival of the great apes is closely linked to the recognition and livelihoods of the local communities with which they share their natural habitat, which is often exploited by external forces with an interest in the resources to be found there.

The great apes are an indicator of the ecological integrity of the health and diversity of tropical forest ecosystems. As charismatic headline species, the great apes also have a great capacity to raise the awareness of the general public and can thus help raise finance to protect tropical forest biodiversity.

France hosted GRASP planning meetings in the early 2000s and more recently the meeting of GRASP donor states at the Natural History Museum in Paris in 2007. As a signatory of the Kinshasa Declaration, France sits on the Executive Committee and has funded various key GRASP projects, notably as part of the Year of the Gorilla 2009.

Doug Cress, Coordinateur GRASP, PNUF



Gorilla, emblematic species of the great fauna of Central Africa forest. © Franck Ribas

3. Protected areas in the context of spatial planning

Conservation issues make it necessary to broaden the scope of biodiversity preservation schemes beyond protected areas alone. The role of ecological continuity in terms of protected area connectivity is fundamental in this respect. The interactions between protected areas and adjacent areas devoted to other uses are also important. The example can be cited here of Nouabale Ndoki Park in the north of the Republic of the Congo which borders on three forest concessions that are either already certified or in the process of certification. This site is part of the Sangha Tri-National landscape covered by a sub-regional initiative for the concerted management of the cross-border territory overlapping the CAR, the Republic of the Congo and Cameroon. The forests of Central Africa comprise a dozen landscapes of the same type where management approaches are being developed across whole territories forming a coherent component of the global ecosystem. Each such landscape includes three different management zones: protected areas dedicated to biodiversity conservation, areas for community management of natural resources and resource extraction areas devoted to sustainable economic development activities.

Under such landscape-based approaches to conservation, the spaces dedicated to biodiversity conservation in forest logging concessions offer an opportunity for the maintenance of ecological continuity. In Central

Africa, these conservation working areas currently represent only relatively small percentages (between 3% and 7% on average) and are usually located in geographical areas that are difficult or impossible to exploit (marshland, steep slopes, etc.). There is a need to define such spaces in accordance with their ecological interest and their place in ecological continuity across broader forest territories. In order to delimit these areas, it would be useful to be able to use tools such as the IUCN's lists of endangered species, or to develop new lists to highlight the ecological quality of the spaces to be protected.

It should be pointed out that the reserved areas in zones designated for production in France's overseas territories have been expanded; these are managed by the ONF or co-managed in the case of some national nature reserves (cf. Table 6). Such reserves allow genuine ecological corridors to be established. In addition to the national parks created in 2007 in Guiana and Reunion, protected areas break down as shown below.

Table 6 Areas with protected status in French overseas departments in 2012

Department	Biological reserves*	National Nature Reserves		National Parks	
	Area (hectares)	Name	Area (hectares)	Core park area (hectares)	Optimum observation area (hectares)
Réunion	35 786	-	-	105 420**	68 000
Guadeloupe	-	Petite Terre and Désirade Islands	990	18 806	94 122
Martinique	4 559	Île Sainte-Anne	6	-	-
Guiana	64 373	Grand Matoury	2 120	2 030 000	1 360 000
		Nouragues	106 000		
		Trinité	76 000		
Total	104 718		185 116	2 154 226	1 522 122

* Taking all areas together (strict or managed biological reserves, created or in the process of creation).

** This total figure includes part of the biological reserves.

In addition, in line with the national strategy on biodiversity of 2004, the Grenelle environmental action plan on overseas territories stated that it would “complete the inventory of natural areas of ecological flora and fauna interest (ZNIEFF) with a view to implementation of a scheme on the same lines as the Natura 2000 network in France’s overseas départements and Saint Martin, Mayotte and Saint Pierre and Miquelon; and encourage and assist France’s Pacific communities in this connection.” (Secretary of State for Overseas Territories, 2007). This policy focus was confirmed for all the EU’s Ultraperipheral Regions in the conclusions of the Reunion Island Conference organised by the IUCN in 2008: “The European Union and its Overseas Entities: Strategies to counter Climate Change and Biodiversity Loss”. The ONF made its own contribution to the setting up of the ecological network aimed at preserving remarkable species and habitats in France’s overseas départements. An initial study phase has led to definition of methods and criteria for the selection of habitats and species whose conservation is of particular interest in those départements. A second study phase currently

under way will identify geographical areas of particular interest in order to include them in an ecological network and suggest the most appropriate conservation arrangements.

The EU, through its voluntary scheme “Biodiversity and Ecosystem Services in Territories of the EU Outermost Regions and Overseas Countries and Territories” (BEST), has the objective of promoting the creation of marine and terrestrial protected areas in the ultraperipheral and overseas territories of the EU, applying management of marine and terrestrial resources and improving the conservation and sustainable use of biodiversity and ecosystem services. This instrument has already enabled a number of projects to be funded in 2011 for a total of €2 million.

Sidebar 15 The National Strategy on Biodiversity 2011-2020

The aim of the National Strategy on Biodiversity 2011-2020 is to make biodiversity an engine for the development of regional cooperation in overseas territories. This is so because France’s overseas territories are now committed to the goal of development that is more reliant on their own potential. This is the endogenous development objective defined by CIOM (Conseil interministériel de l’Outre-mer / Interministerial council for French overseas territories) at its meeting of 6 November 2009. The added value of natural resources is an essential advantage for the endogenous economic development of the overseas territories. Use is made of the preservation of biodiversity on three fronts: as a source of innovation and research, as a source of development of tourism (ecotourism especially), with the impacts of the latter being limited as far as possible, and as a focus for regional cooperation between the overseas territories and neighbouring countries. The aim is to strengthen cooperation and coordination of action at all levels: between overseas communities themselves, between those communities and adjacent countries and between the communities and the rest of Europe. There is here a means of intensifying exchanges of experience and expertise within the framework of regional cooperation across broad geographical areas (Caribbean, Indian Ocean, Pacific, South America). In addition, the islands are developing original strategies and models that deserve to be shared or even transposed to continental contexts: adaptation to climate change, reduction of anthropic pressure, conservation and integrated and sustainable management of biodiversity in exploited ecosystems, and so on.

4. Local populations central to conservation

Some recent research (Nelson and Chomitz, 2009) shows that multifunctional protected areas where certain productive uses are permitted are generally as effective, or even more effective, in terms of combating deforestation, than strictly protected areas, especially in the most easily accessed regions where the pressures for logging and conversion to farmland are strongest. Depending on their location, protected areas and adjacent territories may in fact be inhabited to a greater or lesser extent by forest populations holding land tenure rights and rights to use resources. Their participation in conservation efforts can in that case play a central role.

Taking close involvement of local populations in conservation strategies as a guiding principle, several ways forward are worth mentioning. Firstly, a consensus is building around the benefits from approaches focused on the inclusion of the periphery of protected areas in the conservation objective and consideration for the needs of neighbouring populations. Zoning approaches as developed in UNESCO's *"Man and Biosphere"* programme are pointed up as examples in this context (cf. Sidebar 16). Spatial zoning based on the three functions of biosphere reserves (Conservation, Development and Logistic Support) is a system that fosters management and understanding of such interactions and the ecological continuity referred to above in section 3, especially in cross-border areas.

Alongside control programmes, in more complex management situations where damaging activities are continuing within protected areas, it appears relevant to promote changes in practices. In creating its Charter, Guiana's Amazon National Park is for example relying on an approach to conservation that takes practical form in the provision of assistance for changes in practices on the part of the main stakeholders based inside the protected area (cf. Sidebar 17).

And finally, the possibilities should not be neglected for biodiversity conservation linked to sustainable productive activities such as those developed locally by many forest communities in the form of the harvesting of fruit and medicinal plants, rubber harvesting and the production of essential oils. Many conservation projects conducted in Brazil's extractivist reserves over the last several years are examples of activities worth encouraging.

Sidebar 16 Biosphere reserves

Biosphere reserves are areas with ecosystems or combinations of terrestrial and coastal/marine ecosystems recognised internationally under the UNESCO Man and Biosphere programme. As of January 2012, the global network of biosphere reserves included 580 sites in 114 countries covering over 400 million hectares of terrestrial and aquatic ecosystems, in which tropical forests are well represented. Biosphere reserves are both a concept focused on sustainable development and a tool for spatial planning and governance based on a system of zoning that integrates functions vital to achieving sustainable development and for which the core management principle is participation by all stakeholders, and especially local communities.

Biosphere reserves seek to include three basic functions: (i) to contribute to the conservation of biological and cultural diversity, (ii) to foster economic development that is sustainable in environmental and socio-cultural terms, and (iii) to provide logistical support for research, monitoring, environmental education and training.

Each biosphere reserve is divided into three main zones: (i) one or more core areas for protection, monitoring and research, (ii) a buffer zone surrounding or contiguous with the core area where human populations live and where only activities compatible with the conservation objective are permitted, and (iii) a transitional area for activities based on cooperation between various stakeholders for the sustainable management of its resources.

By addressing issues that go well beyond conservation as such, biosphere reserves are experimental sites for approaches to sustainable development.

Noeline Raondry Rakotoarisoa, UNESCO, programme MAB

Lastly, certain approaches providing forest protection indirectly should also be given priority. By targeting critical areas linked to the needs of local populations and seeking to understand them in order to attempt to address those needs, such approaches help preserve the integrity of forests designated for protection. They do not therefore look at protection in terms of zones but try to address the pressures impacting the forest. For example, the Makala project in the DRC seeks to develop agroforestry able to contribute to meeting urban needs for charcoal and firewood in order to reduce the pressure on the natural forest. Studies of bushmeat harvesting stem from a similar approach and lead to the design of programmes for the reduction of the impact of commercial hunting on protected forests and species.



Guadeloupe National park. © Jonathan Saulnier, ministry of agriculture, agrofood and forestry

Sidebar 17 The approach to conservation developed by the Guiana Amazon National Park

The Guiana Amazon National Park covers 3.4 million hectares, comprising a core area of 2 million hectares and a free observance area of 1.4 million hectares. While generally affirming the principle of adherence to the practices and lifestyles of the inhabitants' local communities, the regulations are stricter in the core area. Deriving from the reform of the legislation in 2006, this is a new-generation park that integrates the local populations in the protected areas and encourages them to participate in managing the natural heritage. The park's Charter provides for example for the inclusion of the local population and customary authorities in decision-making in order to ensure the continuation of hunting, fishing and farming activities within the limits set by respect for the environment.

Bérengère Blin, Guiana Amazon National Park

5. Restoration of degraded forest land

According to the Millennium Ecosystem Assessment (2005), 60% of global ecosystem services are degraded. Between 17% and 52% of land is still in a more or less natural state and many countries have few or no natural ecosystems. Given this observed fact, the CBD has set a target for the restoration of 15% of degraded ecosystems by 2020. However, the inevitable conclusion today is that the restoration efforts have been far from sufficient to fulfil those undertakings.

Forests suffer particular harm from the degradation process. Given the large number of people who depend directly or indirectly on forest ecosystems for their livelihood, the social issues linked to the restoration of degraded forests are enormous. This is particularly true of dry tropical forest environments, where anthropic pressures are often strong and resilience much less than in tropical rainforests. In order to determine which areas have the most urgent need for restoration, a mapping exercise has been carried out by the World Resources Institute (WRI) which could provide a basis for restoration projects.

Forest degradation affects not only areas designated for production, but also numerous protected areas. Ecological restoration is therefore a fundamental consideration that should include the management of protected areas.

The part played by civil society in the success of projects for the rehabilitation of degraded ecosystems should also be emphasised, one example being the restoration of the dry forests of New Caledonia, which had virtually ceased to exist.

6. What approach should be adopted for forest biodiversity conservation?

While protected areas are still at the present time a way of addressing major ecological issues that excites lively debate, the usefulness of protected areas in preserving forest biodiversity has been reaffirmed. Extension of the network of protected areas must therefore continue, in line with the undertakings given internationally in the CBD.

Moreover, the improvement of protected area management schemes continues to be a major issue at the present time. There will be a need in this context to promote an approach based on evaluation and continuous improvement of the management of protected areas adapted to local social and political contexts.

It is apparent in this context that the involvement of local populations in conservation is fundamental. Those populations can under certain conditions make a direct contribution to preventing the degradation of protected areas. Furthermore, public development policies can improve their livelihoods and assist changes in their practices inside protected areas.

There is thus an unavoidable need to satisfy the basic needs of populations inhabiting protected areas or their periphery. In this connection, local populations should gain more benefit from conservation's economic spin-off.

There is also a need to ensure the long-term financial viability of tropical forest conservation policies and measures (cf. Chapter II.E).

It is important to stress that forest conservation policies must not be designed as isolated schemes. On the contrary, they should be part of a wider-ranging policy for spatial planning covering the whole territory. Areas designated for forestry and agroforestry production, when managed using a sustainable multi-functional approach, also contribute to biodiversity conservation. It is imperative to take conservation efforts beyond protected areas by creating conditions for ecological continuity that include areas of paramount ecological interest in zones of which the majority is devoted to other uses. And finally, as a supplement to protected areas, conservation policies must also be based on greater efforts to restore degraded forests, an aspect which has until now received little attention in tropical forest policy, despite its importance.

The fundamental role of protected areas is reaffirmed. They must be extended to cover 17% of land area in accordance with the Aichi biodiversity targets, with particular attention to tropical forest biomes; their management must also be improved.

Biodiversity outside protected areas also plays a very important ecological role. Other conservation arrangements must supplement networks of protected area, following a logic of ecological continuity.

The restoration of degraded forest ecosystems, in partnership with local communities, is an emerging issue of considerable importance.

C. THE RISE IN GLOBAL DEMAND FOR ENERGY, FOOD AND MINED RESOURCES AS A DRIVER OF DEFORESTATION

The increase in global food and non-food consumption is generating pressure on land in tropical countries that can in turn lead to more deforestation. Growing global demand for energy and mined resources is leading to an increase in numbers of operating sites deep in forests, including in some cases those that are protected, and this is a direct and indirect cause of significant forest clearance. International demand for agricultural food and non-food commodities, timber and mining products is a key underlying cause of deforestation in many countries in addition to population growth and economic development. Most scenarios for future development of supply and demand for agricultural biomass worldwide produce fairly alarming results for the forest sector that have attracted considerable media attention. According to the FAO, if human requirements are to be met, it will be necessary to increase the supply of agricultural biomass by 70% by 2050. Expansion of this kind would entail a non-negligible increase in farmed area, especially in developing countries.

Deforestation and cattle breeding in Brasil. © Marizilda Cruppe, EVE / Greenpeace



Increased agricultural production can be achieved either by increasing yields on land already farmed (intensification) or by expanding the area of farmland, by moving into pasturage or forests. The question of the relative proportions of these two methods of increasing production remains open, and depends on the region, but some studies consider that forests will be the principal victims of an accelerating expansion of farmland. In tropical regions during the 1980s and 1990s, over 80% of new agricultural land was taken from forests, which had remained comparatively undisturbed in some cases (Gibbs et al., 2010).

1. Controlling the consequences of imports for food and feed

Global food consumption and the volatility of agricultural commodity prices will probably lead to growing pressure from agriculture on forests in the years to come (Rudel et al., 2009). Many NGOs, along with the FAO (FAO, 2011) and UNEP, point to large-scale agriculture focused on exports as one of the main threats to tropical forests, especially in Latin America and Southeast Asia. A particularly accusing finger is pointed at the expansion of soybean in Brazil and palm oil in Indonesia and Malaysia (Greenpeace 2006; Bickel and Dros, 2003).

Oil palm plantations are particularly concentrated in two countries, Indonesia and Malaysia (85% of world production of palm oil and 56% of planted area worldwide (Koh and Wilcove, 2008)). This research claims to show that between 55% and 60% of the expansion of palm plantations has been to the detriment of forests in these two countries. In addition, by 2020, production of palm oil is likely to rise by 60% in Indonesia, potentially endangering 4 million hectares of forest if the development of the plantations is not sustainable (Patentreger et al., 2012). Additional plantations are also planned in Africa and South America.

Commercial soybean crops are described increasingly frequently as one of the major causes of the present decline in the Amazon forest: directly through conversion of forest into farmland, and indirectly by driving livestock farming into forest land. According to the WWF, nearly 49% of natural plant cover in the Cerrado, a tree savanna stretching from Brazil to Paraguay and originally more than 200 million hectares in area, has largely disappeared due to the expansion of soybean farming. Between 2002 and 2008, annual losses were as high as 1.42 million hectares (Patentreger et al., 2012).

Moreover, the development of extensive cattle farming explains 80% of the replacement of forest land by pasturage in the Brazilian Amazon.

The conversion of forest to cash crops or grazing has affected the countries of Asia, Latin America and West Africa in the main. Central Africa has for the moment remained unaffected by this movement towards expansion of industrial agriculture, except perhaps for an increase in livestock farming.

Figure 12 Primary energy consumption worldwide

Source : IEA, 2010

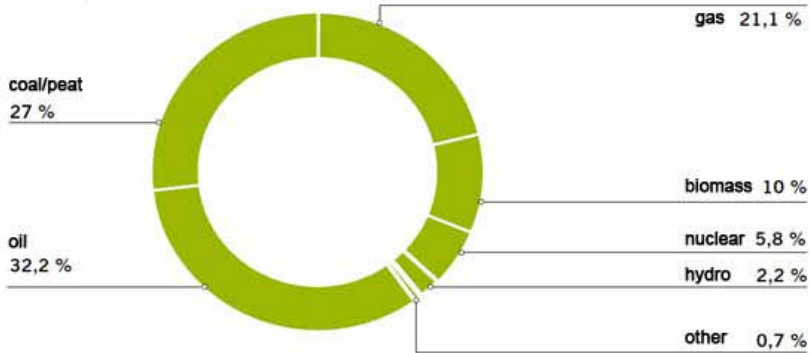
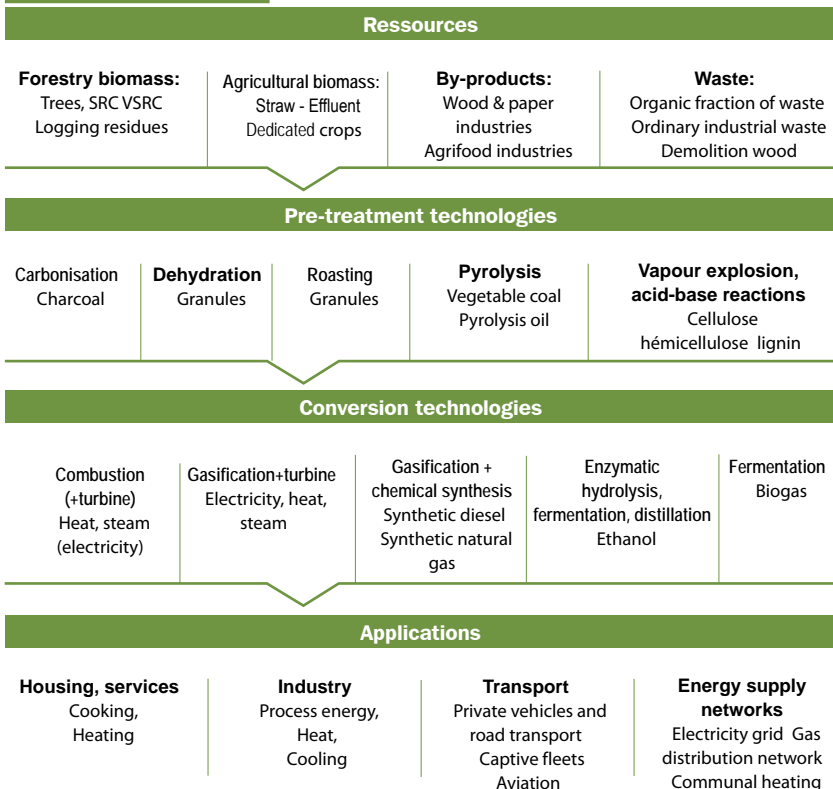


Figure 13 Types of resource, processing technology and bioenergy outlet



Conversely, West Africa was greatly impacted in the 1970s and 1980s, with some countries such as Côte d'Ivoire losing most of their forests.

In the Congo Basin, rising demand for food in the region's cities has led to farmers establishing holdings along the road network and around urban centres, converting forest into food crops (OFAC, 2007). This phenomenon is located in a small number of areas in the south and west of Cameroon, in Equatorial Guinea and in the DRC. Farmed fields there are in some cases converted to pasture.

Political instability and lack of infrastructure are among the reasons usually given for the limited penetration of industrialised agriculture into the Congo Basin (Rudel et al., 2009). Nevertheless, the vast areas of cheap land suitable for farming is beginning to interest numerous investors with palm oil projects in mind. There is therefore a danger in the near future of a turnaround in the trend observed hitherto.

It is increasingly important to devote thought in the public and private sectors and in France and Europe to how the effects of the expansion of industrial agriculture in terms of deforestation can be limited.

2. Controlling the consequences of energy consumption

According to the FAO (2008), growing demand for energy is one of the most crucial issues that will affect the forest sector during the twenty-first century. Rising prices for fossil fuels, which will probably accelerate as the peak in oil production is passed, and the increased greenhouse gas emissions associated with the use of these fuels will lead to profound changes in energy supply. Although bioenergy has a relatively modest place in overall global energy consumption (cf. Figure 12), it is likely that it will play a significant role in the energy transition now under way.

Bioenergy as a category comprises solid biofuels (e.g. firewood, charcoal, wood granules and chips), liquid biofuels (from energy crops or derived from agricultural, agrifood or wood waste or residue,) and gas biogases (produced for example from livestock farm effluent or household organic waste). They are also based on different technologies. All these resources, technologies and uses combine to form a substantial number of existing and potential supply chains (cf. Figure 13).

The development of bioenergy, or rather its return, given that it formed the vast majority of all energy consumed worldwide prior to the arrival of fossil fuels, is both an economic opportunity for tropical countries and a threat to their natural forests. Such development seems to be inevitable in the medium term in view of the global energy situation, but the emergence of sustainable supply chains is proving difficult.

The case of biofuels

Investment in biofuel production has been developing strongly in recent years. Biofuels are mainly manufactured with oilseed crops such as oil palms, rapeseed, sunflower, soybean or *Jatropha curcas* seed, whose oil can be used to obtain biodiesel, and crops containing sugar (sugarcane, sugar beet) or starch (maize, wheat) which can be used to obtain alcohol which can in turn be converted into ethanol as a replacement for ordinary fuel. Biofuels are now considered to be a genuinely renewable energy source complementary to that of fossil fuels, especially in sectors such as transport.

Biofuels have an important part to play in most scenarios for the future development of agricultural supply over the period to 2050, and the switch to advanced biofuels enabling the recycling of the lignocellulosic component of plants (i.e. straw, leaves, wood) is unlikely to change this outlook.

The environmental effects of fuels of fossil origin associated with their extraction phase could in some cases turn out to be more important in a context of increasing scarcity of conventional supply: prospecting for deposits in ecologically important geographical areas, exploitation of tight sand, presalt deposits and shale gas, synthetic petroleum oil from coal, and so on. Several governments have therefore considered that biofuels are a more virtuous alternative form of energy production for the environment and it was in that spirit that the European Union adopted the renewable energy directive in April 2009, which includes a binding target for the share of renewable energy in the transport sector to be at least 10% of final energy consumption in the sector by 2020; this target will be met essentially by using current biofuels, which are also subject to requirements for sustainability.

Nevertheless, the pursuit of that target is likely to increase the expansion of agricultural production for energy supply purposes and lead to great pressure on farmland. This is so because if biofuel development continues on its present path the opportunity costs will be very high in many cases, to the point that it will be extremely difficult to limit the conversion of forest land to production of the more economically attractive bioenergy crops.

If biofuel supply is expanded at the expense of forests, peat bogs and other carbon-rich ecosystems, it will probably lead to a significant rise in greenhouse gas emissions from the soil and destroyed vegetation. That danger, which is already highlighted by NGOs such as Greenpeace (2011) has recently been underscored by a report from the Scientific Committee of the European Environment Agency (EEA, 2011). The European Union has taken the direct effects into account by defining the principles for a system to ensure the sustainability of biofuels consumed on its territory, based on environmental requirements such as the reduction of greenhouse gas emissions relative to fossil energy sources and the preservation of carbon-rich or high-biodiversity areas.

Nevertheless, even with such measures, indirect effects due to changes in land use are likely and these will lead to more woodland clearance. This

is true for example when sugarcane crops for biofuel production displaces other crops or pasturage which are then in turn displaced into forests. As a consequence, there is a need to supplement current European policies for the support of biofuel supply chains, specifically to combat indirect changes in land use induced most notably by the development of energy crops in order to guarantee that biofuel supply is not a cause of deforestation. Thought is currently being devoted at EU level to how indirect changes in land use can be addressed. Additionally, provisions of this kind must not mask the need to define a transport policy that reduces the overall impact of the sector, specifically by favouring low-carbon, less energy-intensive modes of transport.

Moreover, in the knowledge that the early demand stimulated by European policy is only part of a wider problem linked to the peaking of global oil production, it would be possible to see this European demand as a source of leverage for encouraging the emergence of genuinely sustainable supply chains in tropical countries, along the lines of what the FLEGT action plan and reference criteria for sustainable forest management certification are endeavouring to achieve in the tropical timber market (cf. chapter F). Some actors stress that certification of biofuel supply chains does not in any case address the issue of indirect change in land use and that any increase in European demand for vegetable oils will inevitably result in increased pressure on tropical forests.

The case of firewood

The various programmes targeting control of energy demand in industrialised and emerging countries should be supplemented by specific action to reduce the impact of rising energy consumption in the poorest countries. According to the International Energy Agency (IEA) approximately 40% of the world's population uses traditional biomass (firewood, charcoal, farm waste, etc.) for cooking (IEA, 2010). Energy-wood accounts for 95% of the biomass used for energy worldwide. Sub-Saharan Africa is particularly concerned here: lacking affordable alternatives for energy, this region is the biggest per capita consumer of biomass. The proportion of the population in the region using biomass for its cooking requirements is as high as 93% in rural areas and 58% in the towns (IEA 2006).

Socially, energy-wood is extremely useful in the poorest tropical countries. Energy-wood harvesting and procurement supply chains constitute one of the main sources of employment in some areas. They provide work for several million individuals with very little visible presence in the national accounts due to the informal nature of their activities. The production of energy-wood generates ten times more jobs than fossil fuels for equivalent energy production (Laurent Gazull, CIRAD). For example, according to the Makala project, in 2010 the city of Kinshasa, with an estimated 5 million consumers, generated net sales calculated at USD143 million for total production of 4.7 million m³, with a supply chain employing some 290,000 producers and workers, 900 transporters and 21,000 retailers.

Energy-wood is thus a major factor to be taken into account when considering forest preservation. According to the FAO, firewood represents over three-quarters of the volume of wood harvested in developing countries, a percentage that is even higher in Africa (FAO, 2005). The role played by firewood in deforestation processes was a major subject of concern to international organisations and bilateral aid agencies in the 1970s. The alarmist scenarios of the time were forecasting massive overexploitation of forests to meet the energy needs of expanding poor populations. The talk then was of a firewood crisis in describing the deforestation caused by the harvesting of wood in tropical regions (Eckholm, 1975). This alarming analysis has been moderated considerably since then. The energy-wood deficit expected in the 1970s has in fact turned out to be substantially overestimated and the expected effects of that deficit on deforestation have not come about (Arnold et al., 2006).

If firewood is not a cause of general decline, its harvesting may nevertheless in some cases be a serious threat at local level. In tropical regions, forest clearance around the major urban centres has spread over the years, with the result that procurement has moved further and further afield, as is the case for example in the Sahel's large towns, as well as in tropical rainforest environments such as that around Kinshasa and Kisangani (Schure et al., 2009).

The conversion of firewood into charcoal is tending to become more general in order to control transport costs arising from lengthening logistical distances as well as for comfort of use. However, carbonisation causes a large proportion of the energy content to be lost and a greater quantity of wood is therefore necessary for the same energy yield. The nature of the biomass harvested is also very different according to intended use, charcoal or firewood; firewood can be taken from branches and debris that is rapidly reconstituted in the forest, while traditional charcoal-making requires the denser biomass of trunks and main branches, whose renewal is slower. The rising price of oil in recent years has also led to the failure of many attempts to promote alternative fuels such as LPG.

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Far from the major urban areas, the harvesting of firewood is not in fact a primary cause of deforestation because it is essentially a by-product of agriculture and logging. The issues surrounding the development of energy-wood harvesting are linked principally to this spatial concentration and the rapid expansion of the urban population.

The provision of more energy-efficient cooking ovens is a strategy developed with success in some tropical regions. The development of periurban forest plantations outside forest areas is another strategy proposed for energy-wood supply that reduces pressure on natural forests near major towns and cities. In addition to their greater ease of access, plantations with selected species are considerably more productive than natural forests. However, it is a strategy that is sometimes criticised for the potential ecological effects of the extension of large single-species plantations on natural areas, especially in areas suffering from water stress (CIFOR,



Charcoal sale on the roadside in Benin. © Marianne Donnat, IRD

2003). Such fears should however be seen in perspective since at present plantations of this kind meet no more than 5% of energy-wood requirement.

Energy-wood offers potential for innovative energy and economic development in developing countries on condition that multisectoral policies (energy, agriculture, environment) combining urban and rural populations in the sustainable management of supply to urban areas can be applied.

In regions with greater water supply and agronomic potential, the emergence in the near future of regional and international export sectors seems likely and will need to be properly regulated to ensure that technical and economic opportunities can be grasped while at the same time controlling the impacts on forest ecosystems, agrarian systems and local livelihoods.

3. Controlling and regulating extractive activities

Rising market prices for gold, the ultimate hedge commodity, has led in many tropical forest countries since the 1990s to what in some quarters is described as a second gold rush. Among the hardest-hit are Peru and Suriname, as well as France, in Guiana. Working alongside a more or less well organised legal sector, illegal extraction of gold has developed very rapidly, becoming the primary factor in the environmental degradation in the interior of the Guiana Plateau. The negative effects of gold mining on the forests concerned include for example the concentration of deforestation along small water courses, mercury pollution of soil and groundwater, the pollution of groundwater by suspended matter and declining fisheries and game resources, effects which can even destroy whole watercourses, along with all the indirect consequences for human health and the livelihoods of the local population.

In French Guiana, in order to counter the environmental risks associated with legal gold mining, the SDOM (Schéma Départemental d'Orientation Minière / mining policy master plan for the département) has been in force since December 2011. The purpose of the SDOM is to lay down a clear framework for the extraction of gold in ways that protect biodiversity and the natural heritage of Guiana and, more generally to provide a basis for a genuinely effective long-term mining and industrial policy in Guiana. It contains a map of the zones where mining activity is prohibited, authorised or restricted, and lists all the requirements to be met for issuance of licences. The plan contains stipulations for the restoration to their original condition of locations degraded by gold miners. Application of the SDOM is monitored and accompanied by strengthened control measures and sanctions to counter the development of illegal and clandestine gold mining (cf. paragraph 4 of Chapter I.B).

New Caledonia is once again seeing a high level of mining development. The impact of the older mines, 300 of which are still in operation, is now aggravated by that of new, large-scale projects. Although the rehabilitation of open-cast mines is not yet a legal obligation in New Caledonia, some mining companies are trying to restore the vegetation on sites degraded by the extraction of nickel deposits. Natural recolonisation of a site by degraded plant formations occurs very slowly, while the effects of erosion on the land left bare are considerable. Research work, done mainly by the IRD (Institut de recherche pour le développement / Institute for Development Research) and CIRAD (Centre de coopération internationale en recherche agronomique pour le développement / Centre for international cooperation on agronomic research for development), have helped develop the methods needed to restore plant cover (Sarrailh and Ayrault, 2001). The master plan for the exploitation of mining resources was adopted at the New Caledonia Congress on 18 March 2009. The Nickel Fund was set up in accordance with the principles laid down in this plan, the aim being to bring about the gradual rehabilitation of areas degraded by past mining.



Oil palm plantation in Borneo. © Daniel Beltra, Greenpeace

In Central Africa, the government departments responsible for mines grant prospecting and extraction permits on the basis of procedures that do not appear to take into account the protected status of forest ecosystems in every case, leading to dangers of administrative inconsistency. Moreover, although many mining applications include environmental impact studies, absolutely no assessment is made of the cumulative effect of large numbers of large-scale adjacent projects in or between countries. Lastly, access to mining schemes requires numerous access roads to be opened up and this fragments the forest, facilitating human penetration, notably for hunting, into previously inaccessible areas.

4. What should be the role of the certification of agricultural products with an impact on forests?

The certification of food and non-food products is one of a range of strategies for action to reduce the effects of rising demand for consumer goods.

For example, the European Commission obliges Member States to put in place a system for sustainability based on independent certification, applicable to all types of biofuel, whether domestic or imported, consumed in the European Union. Indirectly, one of the proposed criteria concerns the origin of the raw materials for biofuels distributed in Europe: to be considered sustainable, they must not come from forest land. An extension of this sustainability system to include all energy biomass is being considered at EU level.

With regard to highly sensitive agricultural commodities such as palm oil, it is nevertheless important to point out that Europe accounts for no more

than 12% of the global market whereas Asia (particularly China, India and Indonesia) import 50% of the world's production (OECD/FAO, 2011). Three-quarters of the growth in world demand is likely to occur in developing countries, as will two-thirds of the required expansion in oilseed crop to produce those vegetable oils. On the basis of these figures, and even if groups based in Europe may also commit to certification at global level, it seems clear that certification can play only a limited part in combating the conversion of tropical forests into oil palm plantations.

Despite this, in the case of supply chains for which the European market has greater importance and for which the commodities concerned are difficult to replace, soybean for instance, it may be useful to obtain environmental guarantees through appropriate certification. In addition, by influencing major players in value chains, particularly European manufacturers, distributors and wholesalers, certification schemes can be significant drivers that should not be ignored. In the palm oil sector, certification schemes are already operating, one example being the Roundtable on Sustainable Palm Oil, RSPO, to guarantee supplies of palm oil that protect primary tropical and areas of high conservation value. Some organisations such as TFT (cf. Sidebar 18) are also arguing for total transparency in supply chains based on the implementation of traceability systems to guarantee supplies of palm oil free of any form of deforestation and protecting all peat bogs, these being carbon-rich by their very nature (something not guaranteed by RSPO).

Sidebar 18 Traceability for responsible palm oil

Recent projections by international institutions point to an increase of 30% in global production of oils and vegetable fats by 2020, rising from 143 million tonnes currently to 190 million tonnes at the end of the period. Palm oil production is an increasingly important component of the vegetable oil sector, with approximately 47 million tonnes in 2010 likely to rise to 63.7 million tonnes by 2020 (OECD/FAO 2011). This industry is thus likely to be supplying a third of the extra requirements for vegetable fats by 2020. Palm oil will therefore be part of tomorrow's solution to meet growing global demand for vegetable oils. In this context, strategies are essential for oil palm expansion and deforestation-free palm oil production, plus the preservation of all peat bogs.

The economic operators involved at every point in the supply chain, particularly growers and traders, must make these two requirements (zero deforestation and protection of carbon-rich spaces) an integral part of their corporate values.

The foundation for general and systematic adherence to this imperative is firstly a requirement for unconditional traceability structured around knowledge and control of the whole range of palm oil supply sources.

Any certification initiative based on the three components of traceability, zero deforestation and preservation of carbon-rich spaces would provide a guarantee of palm oil that can be considered responsible by the above criteria.

Frédéric Meignotte, TFT

In the view of some NGOs, RSPO does however have some additional limitations such as the lack of any ban on certain plant protection chemicals judged to be hazardous by the World Health Organisation and the absence of any obligation to protect the rights of local and indigenous populations (only a small number of compensatory measures are put in place, to be negotiated with the parties affected by the plantations). Those NGOs also underscore the need to develop, as a matter of priority, quantitative approaches based on reductions in demand. Certain actors in the distribution sector have already been made more aware of these certification programmes and are gradually beginning to apply them (cf. Sidebar 19).

As stated in previous sections of this report with regard to biofuels, changes in land use linked to the expansion of industrial agriculture sometimes come about indirectly. In such cases, cash crops for food and non-food uses are not planted directly on forest land but they do displace other crops or pasture on to forest land. This is one of the reasons why certification systems have limitations and cannot be considered to offer the sole solution.

Sidebar 19 The forest plan of the E. Leclerc supermarket chain

Aware of worsening problems of deforestation worldwide, the E. Leclerc retail chain designed as early as 2004, as part of its social and environmental responsibility programmes, an approach aimed at limiting the impact of its business operations on tropical forests.

The approach was put in place progressively, with a gradual broadening of the scope of the company's action: initially, the targets were garden furniture and tropical wood decking. From 2008 on, an impact study focused on palm oil and soybean. Following this, in 2010, the forest plan was launched to address the whole range of issues linked to deforestation.

The undertaking given by the store chain is that it will gradually ramp up to a position in which its forest footprint is 100% responsible, using a number of methods: (i) resource economy, and/or (ii) replacement of high-risk resources, and/or (iii) the obtaining of guarantees on sustainability and traceability for those resources.

The goal of the forest plan is to have established by the end of 2012 policies plus action plans and quantified targets for the whole range of products identified as most important in terms of their impact on tropical forests. In 2011, two policies and actions plans were defined and communicated for tropical wood and palm oil.

The chain's palm oil policy is firstly to endeavour to achieve a 100% responsible forest footprint by replacing products or obtaining guarantees as to their sustainability, in addition to training company teams, raising suppliers' awareness, informing consumers and, lastly, ensuring that the programme is transparent by publishing the results of the policy annually. Since 2009, the chain's undertakings have resulted in a reduction of 3,350 tonnes in palm oil volume by replacement with other oils. E. Leclerc will be continuing the programme in 2012-2013, with a target of half of all palm oil certified RSPO, and the other half replaced by oils.

Valérie Lemaire, E.Leclerc

5. Towards control of demand

Expressed in terms of “imported land”, Europe is highly dependent on agriculture elsewhere in the world: Europe uses the equivalent of 640 million hectares of agricultural land, or 1.5 times its own geographical area. In this context, the question arises of the control of European demand. In January 2011 the European Commission published a flagship initiative: “A resource-efficient Europe”. Later, in September 2011, it published a roadmap on the subject. The goal of the initiative is to make the efficient use of resources and low-carbon emissions guiding principles for the European Union’s sectoral policies. This will make it possible to look at the issues arising from the impact of European consumption on deforestation in this wider context¹.

6. Assisting changes in technical pathways

In order to avoid a situation in which increased agricultural production is achieved by expanding farmland to the detriment of ecosystems rich in biodiversity such as tropical forests, increased agricultural yield needs to be considered. Numerous technical solutions allow better yields per hectare to be achieved, techniques that do not simply mean more chemical inputs. Optimised management of the services rendered by ecosystems, such as agroforestry systems and ecological intensification, can bring about substantial improvements in yield (Griffon, 2010).

The promotion of agricultural intensification that takes the environment into consideration is one of the flagship measures of the report on the protection of tropical forests submitted to the President of the Republic by French parliamentarian Jacques Le Guen: *“The first step to take is to intensify agriculture, i.e. to ensure optimum agronomic use of land based on methods protective of the soil, biology and the environment, and respectful of the culture of local populations, in order to make better use of cleared land without destroying it, replacing invasive agriculture by sedentary agriculture. Such intensification will allow further deforestation to be abandoned”* (Le Guen, 2010).

However, research (Angelsen and Kaimowitz, 2001; Rudel et al., 2009) shows that the intensification of agriculture is not an automatic guarantee that deforestation will be avoided. For example, technical advances on crops such as soybean, oil palms and sugarcane allow yields to be increased and high levels of profitability to be achieved, raising the opportunity cost of the conversion of forests into farmland. As Treyer and Pirard (2011) point out, *“Although intensification, that is to say the increase of productivity per hectare, is a key variable in long-term forest conservation, the problem cannot be solved by prescribing this as a sole solution.”*

Such consideration of the links between changes in technical pathways

1. The Commission has also commissioned a study by the VITO institute on this impact. Its conclusions are expected in June 2012.

in farming and deforestation must also be combined with reflection on REDD+ finance (cf. Chapter II.E). This is so because the implementation of ecologically intensive agriculture could benefit from payments for environmental services, in particular for those linked to reductions in carbon emissions. Payments for environmental services can indeed provide the necessary incentives for investment in such techniques, as well as the cross-compliance needed (for example, through adherence to a zoning plan) in order to avoid the dangers of the knock-on effects of agricultural intensification discussed above.

7. Supporting a green economy that takes account of the major food and non-food issues linked to forests

Rising demand for energy, food and mined resources worldwide is a key factor to be considered for the future of tropical forests. Sustainable management of forests and their conservation must be supplemented by systems for the sustainable management of agricultural, energy-related and mining activities. Increasing agricultural yields can help limit the expansion of farmland but it will need to overcome the challenge of sustainability (ecological intensification, agroforestry, etc.). REDD+ and other environmental financing mechanisms, and particularly funding for adaptation to climate change, could support the development of policies to help implement systems for the ecological intensification of agriculture in tropical countries.

France, in conjunction with its European partners, has an important part to play in seeking to minimise the impact of imported products on deforestation. Quantitative reduction in demand is an ambitious goal under consideration by the European Union at the present time, and this will need to be backed by a qualitative approach, notably one based on certification.

Global demand for energy, food and mined resources is placing tropical forests under increasing pressure.

The main focuses for effort, especially in agrifood supply chains, are demand-side management, certification, environmentally-sound intensification of production and reduction of wastage.

The siting of extractive industry activities must be more effectively controlled with a view to sparing forest land, especially in protected areas.

Bioenergies are renewable yet limited resources. There is a need to prioritise uses and to encourage the emergence of sustainable supply chains.

The “Roadmap to a Resource Efficient Europe” initiative offers interesting prospects for the future in terms of limiting the impacts of European consumption on deforestation.

D. TRADE IN TROPICAL TIMBER: LEGALITY, SUSTAINABILITY

1. Context

The origins of action on sustainability and legality in the forestry sector

Starting with the attempted boycotts of tropical timber in the 1980s, up to the emergence of sustainable forest management certification in the 1990s, followed by the combat against illegal logging in the 2000s, commerce has been a preferred source of leverage for improving logging practices in tropical forests.

Such approaches stem from the polemic around tropical deforestation and the responsibility for the phenomenon borne by the countries that consume tropical timber. Tropical forests became a worldwide issue with particular resonance at the Earth Summit in Rio in 1992, along with globalisation of the economy. The international debate has in turn transformed and enriched the discussion on forest policy to the point at which issues and concepts have been modified. Discussion of new instruments is a result of this dynamic.

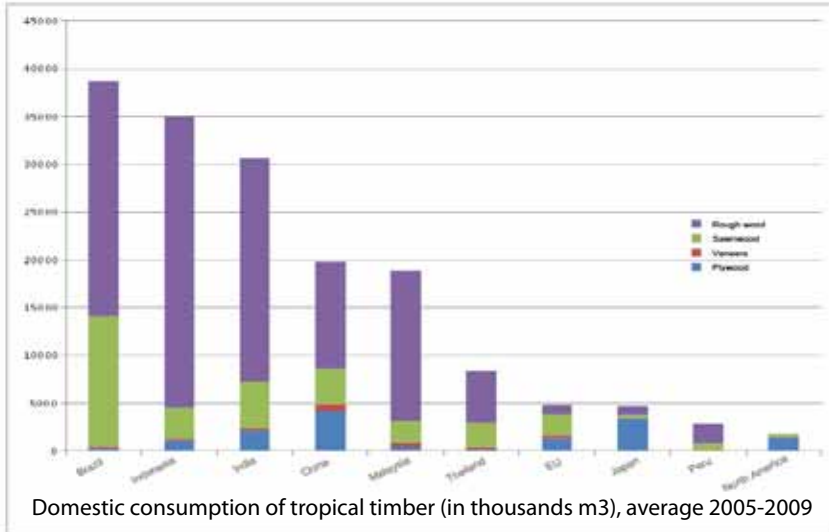
The first legal instrument for the verification of legality applicable to trade in tropical timber was the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) signed in Washington in 1973 and in force since 1975. CITES established three lists (known as Appendices I, II and III) of animal and plant species providing for differing levels of protection. There is a total ban on trade in species listed in Appendix 1. To import products deriving from tree species listed in CITES for which trade is authorised, the importer must produce a CITES permit for the customs administration. This permit is issued on production of the original of the CITES export permit issued in the producing country.

Certification is another instrument which, although it does not focus centrally on verification of legality, uses the demand from the most responsible portion of the consumer base in developed countries to encourage the emergence of best practice for producers targeting this market segment. Certification has changed the situation radically in certain regions and its achievements now need to be extended and consolidated (cf. II.D.3 below).

But in the late 1990s, attention began to focus on the whole range of timber products imported by consumer societies. It became unacceptable to find wood derived from illegal logging on store shelves alongside certified wood compliant with best sustainable management practice. In light of the fact that the rules of the World Trade Organisation do not permit restriction of imports on the basis of their origin or the manner of their manufacture (only the intrinsic characteristics of a product may possibly justify such restrictions), the EU therefore used the enforcement of legislation in partner

Figure 14 The ten countries where apparent consumption of tropical timber is highest

Source: ITTO, 2011



countries to promote efforts against illegal logging through the FLEGT action plan (cf. II.D.2 below).

The EU’s FLEGT action plan is currently in its deployment phase and offers highly interesting prospects for a healthier European tropical timber market and the generalisation of good practice among export operators in the main trading partner countries.

The European Union is also reliant on the private sector since promotion of the supply of products from forests under sustainable management also involves controlling demand, through the distribution sector. Europe thus co-financed the Timber Trade Action Plan whose purpose is to develop tropical country control chains in the companies supplying European buyers that are members of trade federations. Logically, traceability necessarily entails control of timber from the tree to the end product sold to the consumer.

Taking stock of international trade in timber

A minority of global timber production is traded on world markets. Specifically, according to FAO figures (2007), 7% of global industrial roundwood production is traded internationally and a limited percentage of this comes from tropical forests. The biggest consumers are the countries producing tropical forest products, and emerging countries (cf. Figure 14). It is clear that producer countries are determined to develop their national industrial infrastructure in order to export processed products, thus adding value locally.

On the African continent, urban domestic markets stand at significantly high levels (cf. Table 7) with supply coming mainly from the informal sector. According to research conducted by CIFOR (2011), the volumes produced by the informal sector and by the industrial sector are roughly equivalent.

Table 7 Estimates of sawnwood volumes over 12 months in Central Afric

Lumber (m ³)	Cameroon (Yaounde, Douala, Bertoua)	Gabon (Libreville)	Congo (Pointe-Noire, Brazzaville)	RDC (Kinshasa)	RCA (Bangui)
Domestic consumption (2008-2009)	860,000	70,000	109,500	146,000	67,000
Informal production (2008-2009)	662,000	50,000	99,000	-	33,000
Annual exports (2010)	360,000	150,591	210,000	28,645	41,000

Source : CIFOR, 2011

Europe's place in the international tropical timber trade is of secondary importance, with a generally downward trend as consumption in emerging countries rises. The drivers for consumption of tropical timber stem essentially from population growth in the major emerging countries: China, Brazil, India, Pakistan and Indonesia. Economic and demographic foresight analysis shows that the main regions for consumption of tropical timber are shifting towards Asia and Africa. Nevertheless, the commercial instruments gradually being put in place by countries that have historically been consumers of tropical timber, European countries especially, have continued to take an interest in encouraging operators in tropical timber supply chains to change their production methods. Acting on supply and demand, the aim is to obtain improved governance and management of tropical forest resources using the leverage provided by demand from Western countries on producing, and especially processing, countries. Given the development in the international timber trade, the issues surrounding the functions of the various instruments deployed, their effectiveness and their mutual complementarity need to be taken into account.

2. Measures against illegality

Illegal logging is an issue that has been the subject of major mobilisation on the part of actors both in the public and private sectors over the last dozen years. It has been defined as one underlying cause of deforestation (Glastra, 1999; Contreras-Hermosilla, 2002). The methods involved are many and various: unauthorised occupation of forest land by small-holders or companies, exploiting or exporting protected species, poaching, logging outside concessions or inside protected areas, timber smuggling,

unauthorised processing of timber, cutting of timber smaller than the authorised diameters, exceeding the volumes authorised by permits, non-application or non-compliance with forest management plans and non-payment of tax and duty. Numerous examples demonstrate the sheer scale of this phenomenon in most tropical countries and its impact on forest decline. The illegal nature of this aspect of logging also reduces fiscal revenue going to local and national governments and by the same token the local economic spinoff from the exploitation of forests.

In Central Africa, the issue of illegality differs between the industrial sector (a few dozen operators) and the informal, artisanal sector, (several tens of thousands of local producers using half of the total volume of timber and virtually all energy-wood in the region).

Although the legislative armoury has been substantially strengthened to address the problem of forest decline, laws for the protection of forest resources are very rarely obeyed in many tropical regions. Illegal logging tends in fact to be the rule rather than the exception in many places: 80% of logging is said to be illegal in the Brazilian Amazon (Contreras-Hermosilla et al., 2007) and between 30% and 50% in the Congo Basin.

The FLEGT Action Plan

This situation militated in favour of the implementation of the G8 forest plan in 1998, following which the regional FLEG (Forest Law Enforcement and Governance) processes were launched with the support of the World Bank.

The European Union played a driving role in this process by adopting its own action plan in May 2003, Forest Law Enforcement, Governance and Trade, which combines supply-side measures in Voluntary Partnership Agreements (VPAs) and on the demand side, with its flagship measure, the European Union Timber Regulation (EUTR).

The implementation of Voluntary Partnership Agreements (VPAs)

Several tropical forest countries are applying, negotiating or beginning negotiations for a Voluntary Partnership Agreement (VPA) with the EU¹. Specifically, the forest countries of the Congo Basin have expressed interest in VPAs since 2005. Signatory countries are now focusing their efforts on implementation, which is not without its challenges.

Voluntary partnership agreements are powerful tools not only for the enforcement of the legal and regulatory provisions of existing legislation,

¹ Countries that have signed a FLEGT VPA and in the development phase of the system for verifying legality: CAR, Cameroon, Republic of Congo, Ghana, Indonesia, Liberia. Countries in the process of negotiating a FLEGT VPA : Gabon, DRC, Vietnam, Malaysia. Countries that have expressed a wish to join the process in 2012: Honduras, Guiana, Laos. Countries that have expressed a need for more information: Central and South America: Bolivia, Colombia, Ecuador, Guatemala, Peru; Asia-Pacific: Cambodia, Myanmar, Papua New Guinea, Solomon Islands, Thailand; Africa: Cote d'Ivoire and Sierra Leone.

but also for updating measures. A number of difficulties have been identified in the implementation of VPAs, especially with regard to the drafting of concrete, effective procedures for the application of the laws and stakeholder involvement and integrity. Lastly, if VPAs are to have significant effects for the improvement of forest management, informal artisanal supply chains must receive special treatment. Such provisions are included in some VPAs and their application may provide an opportunity to regulate this sector, which has until now been ignored given the focus on major logging concessions.

In order to address all these challenges, financial resources will need to be mobilised through aid programmes initially and later in the countries themselves on the basis of improvements in fiscal revenue collection enabled by the regularisation of entire areas of forest-related activity.

The European Union Timber Regulation (EUTR)

EU regulation 995/2010 on timber (EUTR) was adopted by the European Parliament and Council in October 2010 and will come into force in March 2013. The obligations imposed by the EUTR apply to economic actors and not Member States: (i) a ban on placing on the internal market illegally harvested timber or timber products derived from such timber; (ii) a due diligence system imposing obligations on operators placing timber and timber products on the internal market for the first time (EU importers and forest operators); (iii) an obligation on traders to ensure minimum traceability (identification of suppliers and customers).

The due diligence system, making the operator accountable, is a proactive approach to preventing trade in illegal timber. It involves several stages:

- ▶ The collection of information: a description of the goods, including weight, volume and tree species, information demonstrating compliance with the legislation in force in the country of origin, and the contact details of the suppliers;
- ▶ Evaluation and analysis of the risk of illegality;
- ▶ Mitigation of the risk, for example by requesting additional information, verification by a third-party control body or changing supplier.

Products accompanied by a CITES permit or a FLEGT authorisation are considered to be legal under the EUTR: they are subject to specific control procedures in producing countries and at import into the EU.

The EUTR applies to timber of all origins: both to imported timber and to timber produced in EU Member States. The regulation covers all timber and timber products with the exception of recycled and printed products. The EUTR therefore covers all inputs to the EU market and especially products processed in countries importing rough wood and base products from tropical forest countries in order to reexport them to Europe in a more elaborate form.

The EUTR and the VPAs are mutually complementary. Supplies of timber or processed product from countries applying VPAs provides a legal guarantee

for the operator that he can be sure of not importing illegal timber. This is a very strong incentive to procure supply in countries that have signed VPAs, and for producing countries to subscribe to a FLEGT process.

Although the European Union consumes only a small proportion of the tropical timber produced, the FLEGT process has nevertheless had a structurally important effect on the improvement of governance in tropical forest countries. Firstly, compliance with the legislation in harvesting countries extends to all the pillars of sustainable management: rights of access to the resource, taxes on harvests, logging regulations, commercial and customs law, environmental laws, land law and use rights. Secondly, the impact of the implementation of the FLEGT action plan goes far beyond an incentive to obey the law in that it helps secure fiscal revenue in producing countries, reinforces the capacity of local government administration and generally improves the transparency of forest supply chains as a whole.

The EU's FLEGT action plan must therefore be seen as a catalyst for improvement of practical governance in tropical forest countries with which Europe has trade relations.

3. What should be the role of certification?

The objective of forest management certification initiatives, launched and implemented before the adoption of the EU action plan, FLEGT, is to guarantee throughout the supply chain that forest products placed on the market come from forests that are managed sustainably. Certification involves *"issuance of a written assurance (the certificate) that an independent body has audited an organisation's management system and verified that it conforms to a standard"* (ISO, 2004). In the case of forests it involves voluntary private-sector programmes to supplement more conventional public policy measures such as regulatory controls. Using such programmes, private companies seek to demonstrate to their customer base, which has been made aware of environmental and social issues, that they go further than simply meet legal requirements for management. Some governments nevertheless play an active role in implementing such private-sector initiatives. They have in some cases promoted the creation of voluntary forest certification schemes, in Malaysia for example. Certain governments have also made substantial contributions to the funding of private-sector certification initiatives. And lastly, in both consuming and producing countries, governments can decide whether or not to encourage the development of certification through a range of measures such as aid projects, forest policies, tax measures and public procurement of certified products. France is a notable contributor to the development of tropical forest certification through aid projects funded by the AFD and the FGEF such as the ECOFORAF project (supporting eco-certification of forest concessions in Central Africa).

Alongside the two main forest management systems FSC and PEFC (cf. chapter 2A), other certification initiatives should be highlighted since they stem from a different approach. These include in particular certification systems such as Keurhout, originally designed by the Dutch government for procurement for its own domestic tropical timber market. The Keurhout organisation does not accredit any third-party control body and nor does it itself certify forest management. It issues certificates based on a protocol defined in accordance with its own criteria for the assessment of other existing certificates. The Keurhout certificate was suspended in 2003 following controversy before being relaunched in 2004 by the Dutch timber trade federation. To complete the overall picture, it is worth adding the certificates of legality issued by internationally reputed private third-party control bodies attesting to forest logging companies' compliance with national regulations.

Several industrial companies exporting forest products to European and American markets have committed to forest certification programmes. This is notably the case in Central Africa, where certification has made substantial progress in just a few years. This movement seems at present to be at a standstill with some actors in tropical timber supply chains reluctant to engage in costly programmes of this kind. There are reasons to explain this slowdown, among them controversy over the credibility of certification, the expectations of industrialists for VPAs which should ensure secure access to the European market, and excessively weak public demand despite the undertakings given by several European governments to channel public-sector timber procurement towards certified products. In order to maintain the dynamic generated in recent years and to provide positive incentives to producers committing voluntarily to virtuous programmes, there is a need to implement measures that will increase the proportion of publicly procured timber deriving from certified management systems, in line with the 2005 circular on French public procurement contracts.

It is certainly true that the certification of forest management can play only a limited role in terms of large-scale changes in logging methods (the sensitive markets are located mainly in Europe and North America).

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However, forest management certification has nonetheless made major progress in some tropical regions in recent years, especially in the Congo Basin, where it now includes over five million hectares. This progress is revelatory of some degree of change in attitudes in the industry, even in the absence of guarantees as to the market for certified products. It reflects a commitment of the actors to move in the direction of more responsible management. Certification allows a broad objective to be defined; it provides a reference in terms of sustainability targets to be achieved. Such advances are however fragile due to continuing problems of governance in tropical areas and difficulties in structuring the certified tropical timber supply chain.

According to the initial conclusions of a recent study conducted by ATIBT (2011), African certified tropical timber is slow to find market outlets that



Logging truck of the Compagnie équatoriale des bois in the forest of Gabon.

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extract value from its environmental advantages. Certified timber products from the Congo Basin on European tropical timber markets represent as little as 7% of the region's production. As products from certified Congo Basin forests go through the various stages in the processing chain, they gradually lose their FSC certificate due to frequent gaps in the chain of custody. The number of processing companies with FSC Chain of Custody certification is manifestly insufficient, despite the fact that this procedure is imperative at every stage in the life of a product if it is to be sold under the FSC label as a finished article. However, operators in the Congo Basin are also to some extent primary processors, carrying out rotary cutting, peeling and sawing, and sometimes even producing finished products such as parquet or curtain rails in the Congo and the DRC, and this should result in the marketing of more quality-labelled products. Lastly, despite the implementation of schemes aimed at increasing public procurement of certified timber, the resulting increase in demand has been limited. To persuade actors upstream in the supply chain that they should continue their efforts to improve practice, the minimum requirement is that public-sector buyers should set an example by increasing the proportion of certified product in their procurement.

4. Legality and sustainability

From the legal standpoint, the implementation of VPAs in the countries concerned will have the force of law. Despite this, several hypotheses have been put forward with regard to the practical deployment of VPAs. According to some observers, effective implementation of VPAs will take time and in the medium term will cover only the major logging concessions, whereas others consider that the undertakings given by the EU and producer countries under the FLEGT programme will inevitably lead to improved governance, with effects that go well beyond the large industrial concessions.

The context of the application of legal provisions initiated by the FLEGT system to counter illegal logging in fact entails a restructuring of the timber market. Specifically, this raises the question of its relationship with private-sector forest management certification systems.

Such systems sometimes point to risk of disengagement by sector operators from private certification initiatives in order simply to comply with their legal obligations. This argument has been strengthened by the lack of any formal recognition of certification programmes in the FLEGT action plan. However, although they are not specifically designed to combat illegal logging, certification schemes do contribute to this through the standards they impose, given that they include legal compliance requirements.

That is why certification systems are adjusting their standards to match the new EU legal framework. The FSC secretariat has for example shown that its system offers strong guarantees of legal compliance; it is also currently involved in adapting its FSC standardisation procedures to ensure EUTR compliance. The aim of such adjustments is to assure certificate holders that FSC-certified products can be considered to present a negligible risk of having been sourced in illegal logging.

Moreover, certificates will find it easier to meet the three criteria currently required than concessions that are simply placed under forest management planning, and other concessions all the more so. The three criteria are: access to reliable production data, risk assessment and risk mitigation. However, only the results of the forthcoming bilateral discussions between the certification bodies and the EU will provide any certainty as to the compatibility of certification schemes and EUTR.

For those promoting systems of certification, legal compliance is a prerequisite for the implementation of any credible certification scheme, a condition that certification sometimes has difficulty in meeting alone, especially in contexts where governance is weak, as is typical of tropical regions. VPAs can be considered to help strengthen certification since they lead to improvements in governance in the forestry sector, this being an imperative condition to be met if certification is to be applied more widely. The FLEGT action plan and private certification initiatives should therefore not be considered as competing systems but in fact as mutually complementary. It must be added that for certain types of concession,

Figure 15 FSC certification worldwide (January 2012)

Source : FSC International, 2012

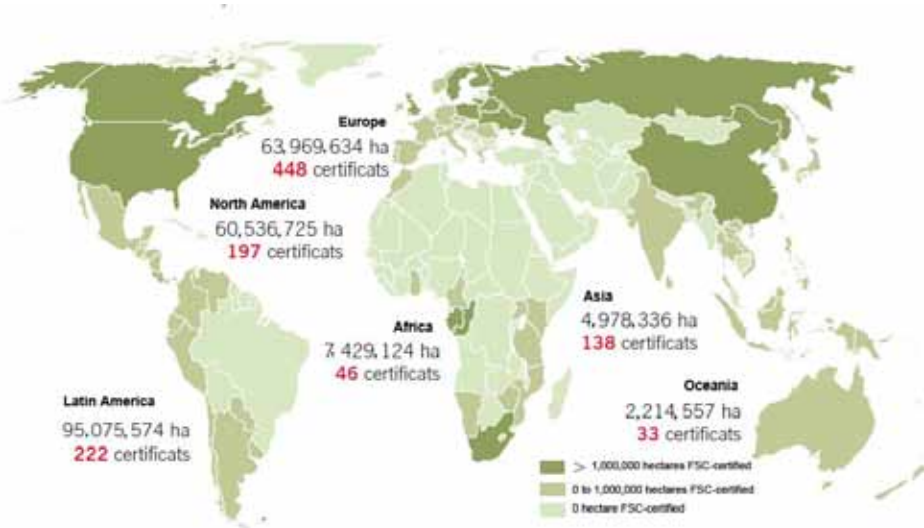


Figure 16 PEFC certification worldwide (March 2012)

Source: PEFC International, 2012 (cf. section 2 of Chapter II.A)



certification entails costs that are difficult for operators to take on, and this will inevitably limit its development. In such circumstances, the guarantee of legality provided by VPAs will constitute a minimum requirement.

The system of guarantees of legality provided by VPAs can differentiate legally sourced forest products and allow FLEGT authorisations to be issued to exporters. The emphasis on legal compliance is all the more relevant given that in many countries forestry legislation defines most non-sustainable methods as illegal, which means that the main weakness in very many cases is law enforcement rather than the availability of regulatory tools. Nevertheless, legality assurances provide no guarantee of resolution of the weaknesses inherent in the forestry legislation of VPA signatory countries with regard to sustainability. The issue of sustainability is addressed in negotiations that must involve representatives of civil society in the relevant countries. Some gaps in forestry legislation have been clearly identified. In Cameroon for example the legal framework does not oblige logging companies to indicate in their management plans certain species that are nevertheless harvested in substantial quantities (Cerutti et al., 2008). In some cases, the minimum cutting diameters set by law are far smaller than should be the case if the forest is to be able reconstitute itself fully. Forest certification systems can in such cases make it possible to go further than the legal requirements by setting reconstitution rates that are higher than statutory rates.

5. Maintaining existing dynamics

The various analytical considerations put forward above indicate that despite the developments in the tropical timber market, and especially the growing importance of the emerging markets, market instruments such as the FLEGT action plan, which originates with governments, and forest certification, which relies on voluntary private-sector action, should certainly not be called into question. All these instruments have structurally important effects that enable improvements to be made in forest management in tropical countries. However, those effects are fragile and need to be scaled up, supplemented and assisted with supportive measures.

In terms of the FLEGT action plan, the core issues relate to the practical implementation of the various proposed measures, with regard to both VPAs and the EUTR. For these challenges to be surmounted, it will be necessary to provide financial guarantees and adequate human resources in both EU Member States and partner countries in order to achieve the stated goals.

With respect to forest certification, it will be necessary to tackle the uncertainties surrounding the effects globally and over the long term and to restore confidence between stakeholders in order for the system to function correctly. This must also involve the adoption of certification standards rolled out at sub-regional or national level that will need to guarantee a high level of environmental and social stringency.

The operation of markets in certified products must also be improved. This involves, firstly, better organisation of the markets in certified products to avoid frequent gaps in the chain of custody. Secondly, the development of markets in certified products must also involve increasing the proportion of such products in public procurement.

In addition to market instruments that relate to French and European consumption of tropical timber, our focus should also be on the future in local markets and South-South trade in tropical timber, these being more difficult to pin down but quantitatively more important. Informal supply chains undoubtedly lead to substantial losses of fiscal revenue for governments but they nevertheless generate value-added and employment in underprivileged areas. And the methods used in this context are not necessarily less sustainable than in the formal sector.

The use of European demand as leverage for the promotion of sustainable practice remains a highly relevant approach. But above all there will be a need to release the resources that will be required for the comprehensive implementation of VPAs, i.e. their application to the least accessible sectors such as artisanal activities.

And finally, current thinking should be broadened to include present and future issues that can be seen to be fundamental. Firstly, the dialogue with emerging countries on legality and sustainability must be stepped up because it is they who are the biggest users of timber. The initiative for the organisation of a summit of the three forest basins is an interesting step in this direction and must be strengthened. Better knowledge of timber flows

Logs storage prior to loading, Cameroon. © Stéphane Guéneau, CIRAD



on markets and better understanding of their socio-economic and environmental consequences is also more important than ever.

Secondly, the application of measures to regulate mining and oil-related activities whose effects on tropical forests will in all likelihood be greater in the future (cf. Chapter II.C) is also a crucial issue only just beginning to be considered. It would be desirable to start a dialogue with the main actors in this sector, to launch research programmes and develop aid programmes specifically directed at these new issues.

Efforts on the FLEGT Action Plan and forest management certification must continue to overcome the challenges of responsible production and consumption, for the future of tropical forests.

Most harvested tropical timber is consumed in the region or exported to emerging countries. Our next task is to maintain active dialogue with the players in this South-South trade in order to forestall risks of overexploitation of natural resources.

E. INVESTING IN TROPICAL FORESTS AND FINANCING ENVIRONMENTAL EXTERNALITIES

The many problems facing tropical forests require action that is costly. Whatever the measures – sustainable management, conservation, restoration or changes in agricultural practices to ensure that they are more protective of forests – they are far from being fully funded at the present time given that many tropical countries are among the poorest on the planet and the least attractive for private investment.

Funding for sustainable forest management comes up against a range of obstacles, among them the lack of remuneration for provision of ecosystem services and the absence of bank guarantees, which limits responsible investment.

In 2006, the United Nations Forum on Forests adopted as its Global Objective 4: *“Reverse the decline in official development assistance for sustainable forest management and mobilise significantly increased new and additional financial resources from all sources for the implementation of sustainable forest management.”* That objective seems to be on the way to achievement, due in particular to new finance linked to climate programmes, but public funding continues nevertheless to be very limited compared with what is needed. In this context, the UNFF is considering the question of the “means for implementation” of sustainable forest management with

a view to a decision in April 2013. The idea of a global forest fund initially put forward by Austria at the World Forestry Congress in 1985 continues to receive general support from developing countries whereas donor nations prioritise the harmonisation and alignment of existing instruments.

For several years now sources of finance have been diversifying widely: funding comes not only from the public sector (bilateral and multilateral official development aid provided through the GEF and the World Bank in particular) but also increasingly from private sources (environmental sponsorship, the voluntary carbon market or the banking sector).

The self-financing of forestry policies has also been considerably scaled up in some emerging countries: for example, China, Vietnam and Turkey are investing over USD10 per hectare of forest per year, whereas India, Brazil and Malaysia are still receiving more fiscal revenue than they reinvest in their forest sector (FAO, 2010). Africa continues to be highly dependent on external financing since 28% of public funding for forests is of international origin. In every other region of the world (except the European Union, where some expenditure is mutualised across the Community), at least 95% of the money devoted to forest policy comes from the national budget.

The international challenges relate not only to the resources for increasing the overall volume of aid to be mobilised for the forest sector, but also to the nature of the financial instruments for a more effective response to international objectives in the area of tropical forest management and conservation. In this connection, the incentives to combat deforestation envisaged under the United Nations Framework Convention on Climate Change (UNFCCC) can be seen to be important, in terms both of the amounts that could be raised and the new financing arrangements proposed.

1. REDD+: outlook, limitations and policy focuses

REDD+ is the financing mechanism proposed under the UNFCCC for the protection and restoration of forests as justified by their contribution to combating the greenhouse effect. The acronym REDD+ refers to *“Policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries.”* In negotiation since 2005, its general framework was defined by the Cancún Agreements (2010) and it continues to be taken forward step by step.

REDD+ excites great enthusiasm in developing countries. Over 45 countries are closely involved in implementing the REDD+ mechanism at national level with the support of multilateral and bilateral initiatives. REDD+ is thus seen as an initiative of great structural importance and revelatory of a genuine political will to *“slow, stop and reverse the loss of forest cover and forest carbon.”*

Participation in REDD+ takes place at national level and involves three stages: preparation, the ramping up of policies and measures, and their full implementation with results-related incentives. The majority of countries have begun the preparation phase for implementation of REDD+, which consists of, among other things, improving understanding of the scale and causes of deforestation, laying down the broad lines of the strategy against deforestation, preparing a system for monitoring forest carbon and socio-economic and environmental safeguard clauses, defining a reference baseline, conducting various pilot projects to learn lessons and build capacity for execution on the ground and putting in place the institutional architecture necessary for implementation at national level. The REDD+ preparatory phase is conducted with help from wide-ranging processes of consultation between stakeholders in the public and private sectors and non-profit associations, processes which previously existed only in a small number of countries (particularly those negotiating a FLEGT Voluntary Partnership Agreement with the EU). Additionally, some countries have already begun to experiment with payments by results at regional or national level (Brazil, Guiana, cf. Sidebar 20).

Sidebar 20 Fundo Amazônia do Brasil et Guyana REDD+ Investment Fund

Set up by federal decree in Brazil in August 2008, the Brazilian Amazon Fund supports projects that help reduce deforestation in the Amazon forest in the domains of public management of forests and protected areas, policing the environment, private-sector sustainable forest management, economic alternatives for local communities, land zoning measures, regulation of agriculture and restoration of cleared woodland.

The Amazon Fund is governed by a Steering Committee representing the various branches of the federal government, local government bodies and civil society organisations. Decisions are reached on a unanimous basis across these three colleges. The Fund's activities must be in line with national strategies: the Action Plan for Prevention and Control of Legal Amazon Deforestation (PPCDAM), for which the Brazilian federal government earmarked €350 million for 2008-2011 and the Sustainable Amazon Plan, which emphasises alternative approaches to meeting the needs of society, going beyond simply protecting forests.

The Fund is managed by the Brazilian Development Bank (BNDES), which handles fund-raising, project selection, the drafting of contracts and project monitoring and assessment. Its capital is made up of donations (from Brazil as the initiator of the Fund and also Norway principally) and investment income. The unique feature of the Fund is the funding arrangement set up with the Norwegian government, which has undertaken to top up the Fund by USD5 for every ton of CO₂ not emitted across the Brazilian Amazon, as compared with the baseline figure for average emissions over the period



Rain forest during forest fires season in Amazonia. © Daniel Beltra, Greenpeace

1996-2005 (up to a maximum of USD1bn). In practice, the number of hectares of forest is simply converted into tonnes of CO₂ avoided by applying a cautious figure of 100 tonnes of carbon per hectare.

The origin of the Guiana REDD+ Investment Fund (GRIF) is an agreement reached with Norway in November 2009; its purpose is to support the implementation of the national low-carbon development strategy. The low-carbon development strategy of Guiana, a country with extensive forest cover and very limited deforestation, is not directed so much at combating deforestation directly as at promoting economic development activities compatible with preserving the forest cover over the long term. Like the Brazilian Amazon Fund, GRIF provides for Norwegian funding of up to USD250 million over the period to 2015, with part payments linked to performance based on the levels of deforestation actually observed (USD5/tCO₂). Administration of the Fund has been entrusted to the World Bank, in the absence of local banking partners able to meet international trustee standards. The baseline on which performance-related payments will be made has been negotiated at 0.275% of deforestation per year, which corresponds to the average between the rate of deforestation in Guiana over the last decade (0.03% a year) and net average deforestation in the 85 other developing countries whose forest cover has declined in the years 2005-2010 (0.52% a year). On condition therefore that the rate of deforestation continues to be relatively low, Guiana has guaranteed resources available to it for the funding of its low-carbon development, thus reducing long-term threats to its forest.

Although the REDD+ mechanism excites genuine enthusiasm and offers real prospects for a contribution to resolving forest-related problems, there are obstacles to overcome. The first, and classic, difficulty is weak governance in certain tropical forest countries, and notably in fragile States where the implementation of an ambitious forest is made difficult by a lack of effective political leadership, weak national institutions and the absence of any platform for effective consultation of stakeholders in civil society. Such governance issues are often aggravated by other structural challenges to the application of REDD+ investment: specifically, lack of local capacity, failing infrastructure, complex and ineffective land tenure systems, non-existent professional and financial services, and much else. These challenges are reflected in transaction and implementation costs that are often high, holding back investment in economic opportunities whose profitability and viability are in doubt. In addition, insofar as the REDD+ mechanism is guided essentially by the objective of mitigating climate change, some actors fear that it will provide few tangible benefits to local populations, or even that it will infringe their rights or lead to perverse incentives. Given these risks, the REDD+ mechanism has added safeguard clauses plus requirements to monitor the application and observance of those clauses. A final difficulty is the technical nature of some aspects of the mechanism which limits or in some cases impedes the possibilities for a full sense of ownership by the target countries. For example, the need for remote sensing technology frequently requires international expertise, although recourse to this can be limited by mutualising the monitoring systems, developing training for local managers, and adopting simplified methods of arriving at estimates that are inexpensive but prudent. Indeed, despite these difficulties, large-scale flagship programmes using space-based observation are under way (cf. the portal for space-based observation of the Congo Basin forests, <http://bassinducongo.reddspot.org/>) and expertise is being developed by building on acquired experience (cf. Sidebar 27 Chapter II.G).

For all these reasons, the preparatory phase for REDD+ implementation can be seen to be fundamental and to require support that must be scaled up, especially with regard to technical capacity-building in countries engaged in REDD+ implementation, technology transfers and provision of the tools essential to planning and monitoring forest resources. Correct application of REDD+ also depends on efforts to improve governance. Extra support for the FLEGT action plan (cf. Chapter II.D) can be seen in this connection to contribute significantly to enabling the REDD+ mechanism to meet the numerous challenges raised by governance in tropical forest countries. In addition to planning, resource monitoring and improved governance, it is frequently necessary to initiate costly structural reforms and investment when preparing for REDD+ in order to create conditions conducive to subsequent REDD+ activities.

Furthermore, REDD+ requires types of intervention that involve massive reinvestment in agricultural policy by prioritising more ecologically



Colonization of the forest area by agriculture in the Bolivian Amazon Rainforest.
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intensive agriculture (Griffon, 2006), access to credit for peasant farmers, programmes to promote security of land tenure, reform of control systems, revision of licencing systems and subsidies for agriculture, forestry and mining. As a consequence, the very nature of REDD+ extends its scope beyond the conventional project-based approach and into intervention in public policy at provincial and national levels, while endeavouring to ensure the participation of as many tropical forest countries as possible. National institutions will then be able to handle the redeployment of the funding to local programmes, on the basis of participatory processes and in line with national strategies and practical opportunities, complying with the safeguard clauses laid down internationally. That being said, the ability of the public authorities to deploy their programmes on the ground is currently lacking in many countries. For this reason it continues to be necessary to provide direct support to local pilot projects during a transitional period in order to ensure that REDD+ is not locked into debates between experts in the national capitals, while taking care to ensure that the duration of any such transitional period is not excessive given that REDD+ will not be able to avoid leakage, and thus obtain a substantial aggregate impact, unless it adopts a large-scale national and international approach.

There is much confusion between the current local project-based approach by REDD+ aimed at the voluntary carbon market and the future national approaches to meet the terms of the REDD+ mechanism currently being negotiated. Few forest projects designed at the present time by private-sector operators with a view to the voluntary market will be economically viable without public subsidies. Such voluntary programmes continue to be highly variable and uncoordinated; even straightforward referencing of existing initiatives is problematic in many countries.

There is also a danger of misunderstandings with countries whose authorities see in REDD+ a mechanism for funding their development, whereas the primary goal of REDD+ is to reverse the trend to declining forest cover and global forest carbon in order to limit climate change. In short, REDD+ cannot come to be seen as a credible, significant solution for deforestation and forest degradation unless it moves forward on both fronts simultaneously: conducting pilot initiatives and demonstrations on the ground and building the context for large-scale deployment. Funding must be channelled in a balanced, coordinated manner to match national circumstances.

2. Use of innovative, diversified financing instruments

Driven by the growing importance of climate-related issues linked to deforestation and international negotiations on the REDD+ mechanism, new instruments have recently been put in place:

- ▶ The Forest Carbon Partnership Facility (FCPF) set up by the G8 in 2007 to prepare and test the REDD+ mechanism and hosted by the World Bank. France has contributed to €8 million to this,
- ▶ The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Degradation (UN-REDD Programme) set up in 2008 by the FAO, UNEP and UNDP to facilitate countries' preparation for REDD+,
- ▶ The Congo Basin Forest Fund (CBFF) set up by the African Development Bank in 2008 with funding from the United Kingdom and Norway,
- ▶ The Forest Investment Programme (FIP) set up in 2009 within the World Bank's Strategic Climate Fund in order to test the ramping up of REDD+ application in a small number of target countries,
- ▶ The programme to combat deforestation and promote sustainable forest management established in 2010 with the 5th replenishment of the GEF (see Sidebar 21). France is contributing €75 million to this over the period 2011-2014,
- ▶ And last but not least, the Green Climate Fund (GCF) launched at the Durban Conference in late 2011 following its official creation in Copenhagen, and which is intended to fund, among other things, efforts to counter deforestation (REDD+).

But despite this, there is a real danger of discouragement on the part of national authorities in a number of countries given a lack of clarity regarding the overall funding of REDD+, high preparation costs and a voluntary carbon market that offers little return.

Sidebar 21 The GEF and tropical forests

The Global Environment Fund (GEF) has financed projects relating to the management and conservation of forests since its beginnings in 1991. In the space of 20 years, more than 330 projects and programmes have been funded in 100 developing countries. The GEF has provided a little over USD1.6 billion, in the form of donations, leveraging USD7 billion in co-financing. During those 20 years, the GEF has funded not only conventional approaches to forest protection and integrated management of water catchment areas, but also newly emerging topics such as the role of forests in mitigating climate change.

Since the commencement of the fifth replenishment of the Fund (GEF5) for the period 2011-2014, the GEF has co-financed 16 projects and programmes relating to forests (sustainable forest management or REDD+) in the amount of USD223 million. France is the fifth biggest donor to the GEF. It is committed to contributing up to €215.5 million for the GEF5 period, €75m of which is earmarked for forests.

The GEF5 programme is based on a system of incentives. The core principle is to invite countries to assign their GEF biodiversity, climate change and land degradation allocations to projects and programmes linked to sustainable forest management and REDD+. Since GEF5, each country has had an individual allocation under the three Rio conventions. For example, for every three US dollars assigned to forest projects, the sustainable forest management/REDD+ programme will add one US dollar. The objective is to channel USD1bn to forests over the four years of the GEF5 period in this way and attract at least four times more in co-finance.

Jean-Marc Sinnassamy, Secrétariat du FEM

These new multilateral instruments, of which some can be considered to be instruments remunerating ecosystem services (cf. Sidebar 20), supplement the existing range of forest instruments such as ITTO, the mechanism for national forest programmes hosted by the FAO, the World Bank's PROFOR programme and other activities by development banks, UN agencies, major international NGOs, and others.

The range of instruments has therefore been extended substantially, and this appears to be inevitable to a certain extent given the complexity of the issues and the diversity of the circumstances and types of action to be financed.

Trust funds

Trust funds are very much a part of this array of instruments (cf. general presentation and the example of the Sangha Tri-National Foundation in Sidebar 22).

Sidebar 22 Trust funds, innovative financing instruments for tropical forest preservation

There are three categories of fund under the trust fund heading:

- Endowment Funds, where the capital is invested in perpetuity, and the resulting investment income is used to finance grants and activities.
- Sinking funds, where the entire principal and investment income is disbursed over a fairly long period of time.
- Revolving funds, where the revenue from taxes, fees, fines, or payments for environmental services regularly goes into the fund.

Trust funds are key, innovative tools for financing biodiversity in tropical forests. They enable long-term programmes to be planned. Where governance is concerned, transparent decision processes and participation allow civil society to be more closely involved. They also have the advantage of being more flexible in use and less affected by political change. They provide improved coordination between donors, the public authorities and civil society. And lastly, they provide a way of collecting and guaranteeing larger private contributions for biodiversity conservation. There have been many successful experiments worldwide in financing projects from trust funds (cf. Figure 17).

French donors (FGEF, AFD) have been closely involved in trust funds over the last ten years. For example, the Sangha Tri-National Foundation is a donor fund set up in 2007 to finance the protection of a forest landscape covering 4.4 million hectares on the territory of three countries (Cameron, CAR, Congo-Brazzaville). It is based on a partnership between the governments of the three countries concerned, plus French and German overseas aid (AFD, KfW), NGOs (WWF, WCS) and the private sector (the German company Krombacher). In total, capital of over €20 million was secured by the end of 2011, enabling several management projects to be funded. Over €4 million in private funds has been raised thanks to an unusual marketing campaign.

Jochen Krimphoff, Fondation WWF-France

Payment for ecosystem services

The concept of payment for ecosystem services (PES) has come to play an important part in recent years in both research and publications, as well as on the ground and in international negotiations on the environment. Tropical forests are a focus for a large part of PES, which can apply to carbon sequestration services, protection of water catchment areas, biodiversity conservation or landscape and recreational value.

Some types of PES remunerate projects for reforestation or forest ecosystem maintenance programmes aimed at protecting water resources (cf. Sidebar 23). Case studies demonstrate that there is very strong consent among users to payment for agricultural and forestry practices conducive to maintaining consumer water resources in a satisfactory state, both quantitatively and qualitatively. A clear approach to the ecosystem services rendered by tropical forests, and the desirable qualitative et quantitative parameters for those services, along with the requirements of their potential

beneficiaries would allow improved consideration of the maintenance of biodiversity and forest ecosystems to be envisaged.

Figure 17 Trust funds around the world

Source: Conservation Finance Alliance (CFA), 2008



Sidebar 23 Payment for Ecosystem Services

Payment for Ecosystem Services (PES) is an economic tool for the mobilisation of additional financial resources for the maintenance of biodiversity and ecosystems. Wunder (2005) has tried to formalise the set of instruments involved as follows: (i) a voluntary transaction in which (ii) a clearly defined environmental service (or a type of land use likely to procure that service) (iii) is purchased by (at least) one buyer of services (iv) from (at least) one supplier of those same services (v) if, and only if, the supplier of the service actually provides it (conditionality).

PES is therefore a mechanism for translating non-market environmental value into tangible financial incentives by creating a link between service suppliers and beneficiaries. PES belongs to a different paradigm from that of “the polluter pays” since the underlying principle is one whereby “the beneficiary pays” in order to compensate for the extra costs entailed for others by conservation. From the economic standpoint, the implementation of a PES system is rational on condition that the value of the ecosystem service provided to the beneficiary is greater than the opportunity cost for the supplier. PES implementation can be justified either by a wish to support changes in practices or by a wish to maintain practices conducive to biodiversity and ecosystem services by remunerating the abandonment of other practices.

Such ecosystem services can be paid for by the taxpayer through government agencies, by the consumer through extra billing on purchases or possibly by producers remunerating economic agents for ensuring the maintenance of an ecosystem service that guarantees their own activities.

PES in Costa-Rica. Costa Rica has pioneered PES as a contribution to an ambitious policy for the preservation of forest biodiversity and the services it provides. Between 1997 and 2004, €200 million in payments for ecosystem services have been targeted at protecting 460,000 hectares of forests. This PES system remunerates services linked to the reduction of greenhouse gas emissions, water, landscape value and biodiversity. The programme is funded from a fuel tax and pays owners submitting and implementing plans for sustainable forest management.

PES in Bolivia (CGDD, 2010). Since 2003, a PES system has been directed at protecting the water catchment area of Santa Rosa in the Amazon rainforest in order to preserve biodiversity (specifically, eleven species of endangered migratory birds) and improve the quality and quantity of water downstream. Specifically, the PES contract prohibits logging, forest clearance and hunting by participants in the agreed areas. The contract is renewed annually on condition that compliance is verified. The owners of the areas concerned provide services to two categories of buyer: an American NGO in the case of biodiversity and in the case of water quality a municipality and a small group of irrigating farmers downstream. A local NGO that originally promoted this PES scheme acts as an intermediary between the parties, raising funds, ensuring that the local population is aware of the benefits of conservation in the area, and confidence building between buyers and suppliers of the services. The NGO centralises the payments and converts them into compensation in kind, supplying hives and training the owners of the forest land under contract. Participants choose which areas they wish to put under contract and the duration of the contract (between one and ten years). Ten hectares of forest included in the PES scheme confer entitlement to an artificial hive and beekeeping training. In 2007, 46 participants joined the PES scheme, representing an area of 2,774 hectares. The PES scheme is evolving as feedback is received from implementation: following the initial assessments, the owners had a choice between two offers of equivalent value: a “hive” package or a “fruit tree plus barbed wire” package. The owners prioritise financial payments in order to protect and strengthen their tenure rights.

Tropical forest PES schemes have logically developed in countries where land tenure rights are clearly defined, particularly in Latin America, and in some South-eastern Asian countries such as Vietnam.

However, there has been a sharp ideological backlash in recent years in some South American countries, citing the merchandising of nature through the promotion of PES schemes, often accompanied by individualisation of land tenure. However, individual land ownership is not a necessary condition for the operation of a PES scheme: the municipal forest movement in French-speaking Africa, which is supported by the FGEF, has for example led to a collective form of PES given that four rural communities in Cameroon have already financed the reforestation of 1,000 hectares since 2008 by extracting value from the carbon sequestration function, paid for by Paris City Authority through the International Association of French-speaking Mayors.

3. Improving aid efficiency

One recurrent observation relates to the poor use made of finance dedicated to tropical forests. For far too long, finance has been released with no requirement of a corresponding contribution from the local level, and without addressing the issue – despite its centrality – of the incentive effect of the funds. The transaction costs and the risks of misuse mean that a large part of the finance provided does not reach its target and that it is insufficiently effective.

The REDD+ mechanism provides hope of change in this respect by proposing that the allocation of a large part of the funding should be linked to results. In 2009, the informal working group on the interim financing of REDD (IWG-IFR), mandated by a number of Heads of State meeting in the margin of the G20 Summit in London, suggested that 90% of funding should be paid out in proportion to the reductions in emissions achieved and 10% allocated for preparatory efforts and various support measures (cf. Figure 18).

Moreover, in order to forestall these risks, public and private financial institutions have developed a number of incentivising mechanisms around which reflection is intended to continue. For example, the GEF requires co-financing, while at the same time encouraging the formulation of projects by national actors (cf. Sidebar 21). Certain World Bank projects require a quid pro quo in terms of improved governance based on the formation and strengthening of local capacity.

In the last few years, given the trend to concentration of budget resources in the public sector, a movement to encourage the private sector to take on a more prominent role has emerged, with the support of international financial institutions in some cases. The FAO (2010) thus notes that the bulk of public funding – taking the national budget and international aid together – is allocated less and less to operating expenditure in the public

Figure 18 The REDD+ financing architecture according to IWG-IFR



sector (regulation, forest management by the public sector and awareness-raising programmes) and goes increasingly to transfer payments (subsidies and tax incentives for households, private enterprise and research facilities). This particular focus on transfer payments is particularly noticeable in Asia (75%), Europe (42%) and South America (38%), but much less so in North and Central America (12%) or Africa (13%).

Forest management is not a priority in some developing countries and the preference in such cases is for international public aid to go to other sectors. In such cases, cooperation with the private sector is often presented as an option for improved efficiency of sustainable management and conservation. However, such a focus also raises a number of questions: is it useful to move in the direction of a privatisation of aid where the State is fragile? How can partnerships with the private sector be controlled given that this sector has a wide range of manifestations, including for example family enterprises, companies in the international banking and finance sector and major transnational conglomerates, all with widely differing strategies? Reflection on the efficiency of aid must for this reason be part of a more general consideration of reinforcement of the public authorities and civil society with the development of a case-by-case approach, ascertaining whether aid is necessary and effective.

4. Facilitation of access to funding

Secondly, although the banks have made substantial changes to their procedures (cf. Sidebar 24), the private forest sector is still suffering from major difficulties in gaining access to finance that would allow it to achieve the objectives of sustainable forest management. Specifically, loans continue to be difficult to obtain for companies whose forest activity requires major investment with a view to long-term management. The banks consider that investment in the forest sector presents high risks and bank guarantees are therefore difficult to obtain.

Sidebar 24 The banking sector: a stakeholder in responsible financing of the tropical timber sector

A comparative study conducted by the Société Générale Bank has highlighted the fact that of 27 international banks, 15 – i.e. more than half – had published undertakings on forests (involving an environmental approach) or the forest sector. All the banks that had published a forest policy lay down requirements for legal logging and preservation of forests with high conservation value. Ten of those banks are reliant on sustainable management certification for monitoring their financial commitments, and five have a more specific requirement for FSC certification for all or part of the businesses of their customers in the sector. A majority of the forest policies (13 out of 15) also address the downstream timber trading and processing sector and encourage

the implementation of supply chain control systems.

The Société Générale has been engaged for several years in implementing a general framework for the establishment of principles of responsible commitment for all of its activities, as well as ensuring that the implementation procedures are an integral part of the core of the bank's operations and to the promotion of activities identified as positive in environmental and social terms. In this connection, it is currently developing an environmental and social policy on the forestry sector. Three fundamental components have been defined:

- ▶ An initial imperative stage is compliance with the law. This requirement can be based specifically on enforcement in certain importing countries (EUTR, etc.) or direct recourse to verification by a third party.
- ▶ In addition to legal compliance, certification of sustainable management must be an objective for companies. Société Générale is aware however that operational certification takes time and resources in a context in which the market does not yet repay such efforts. That is why the Bank wishes to assist companies that have defined a credible strategy in this context.
- ▶ Control of the supply chain by companies downstream in the sector is a key factor in the development and long-term viability of sustainable management and certification systems. Société Générale intends to encourage its customers in downstream businesses to go down this road.
- ▶ Société Générale is convinced that the banking sector can play a role with regard to these three aspects. For control of legal compliance, by communicating and verifying the requirements imposed by institutions; for the development of sustainable management certification, by offering financing solutions, and lastly by making the issue of the supply chain part of its dialogue with customers in the downstream sector

Denis Childs, Société Générale

The GreenChip scheme designed by BeCitizen sets out to remedy persistent problems of access to finance for sustainable forest management (cf. Sidebar 25).

Sidebar 25 Emerging private-sector financing mechanisms: the example of the GreenChip initiative

The tropical timber market is dysfunctional in certain respects: buyers have trouble finding FSC-certified wood, while producers complain of a lack of commercial outlets and finance to meet the costs of sustainable management and certification. It was on the basis of this observed situation that the GreenChip initiative was developed by FSC International with three partners from the economic and financial sphere: BeCitizen, La Compagnie Benjamin de Rothschild and Caisse des Dépôts et Consignations Climat. The idea of the GreenChip mechanism is to provide actors in the market with an electronic platform to facilitate this type of initiative:

- by linking up buyers of certified timber with producers either already certified or moving towards certification,
- by enabling producers to finance their transition to certification by issuing Green-Chips as they move further along the road to FSC certification.

GreenChips will be available through the platform for sale to two categories of buyer:

- industrialists in the timber supply chain seeking to increase and secure their future supplies of certified timber. They will benefit from privileged access to timber from the forests they will have financed in this way (right of first refusal to the timber);
- sponsors, patrons and financial institutions wishing to finance good forest management. This will give them the benefit of a transparent mechanism with measurable results and a guarantee that their finance is linked to verified progress in terms of forest management.

Anne Gouyon, BeCitizen

And lastly, it should be pointed out that many actors in forest management in tropical countries have no, or very little, access to finance, despite the fact that they are in the majority: local communities, smallholders, small logging companies and timber processors in the informal sector, among others. It is not easy to design, implement and roll out financial instruments on a large scale to meet the needs of all these different actors, but many initiatives have been put in place and it is imperative to continue reflection on this in order to develop satisfactory tools such as microfinance, small subsidy mechanisms or payment for ecosystem services (cf. Sidebar 20). A quantum leap in technology must be encouraged in this domain through the use of mobile telephony, web platforms and geotagged photography to bring about substantial reductions in the costs of monitoring, assessing and verifying the activities financed, while at the same time facilitating and securing direct fund transfers.

The ability of local actors to fully own increasingly sophisticated financing mechanisms is a problem that has been discussed for many years, given both the weakness of local governance and the inadequate technical skills of the recipients. In this context, it is apparent that improvements in local governance are necessary, through support for institutions or strengthening the technical abilities of local actors for example.

Another issue often pointed to is the lack of stability of the financial resources as they change in line with projects financed by international partners (donors, private foundations, environmental NGOs) for durations limited to between 3 and 5 years. This problem is particularly acute in the conservation domain, one that can only be addressed for the long term, and which therefore requires aid and assistance programmes over long periods. In light of this issue, the implementation of long-term financing mechanisms in the form of trust funds can be seen as a desirable way forward for successful sustainable improvement of the management of protected areas

(cf. Sidebar 19). Encouragement must also be given to initiatives designed as economically viable business plans capable of generating their own funding sources over time. The task in this case is to associate finance for assistance and structural support with productive investment in alternatives to deforestation.

5. The broad lines of tropical forest financing policy

The financing of programmes capable of preserving tropical forests is faced with many obstacles for which solutions have not yet been found. In this context, the REDD+ mechanism provides a glimpse of hopeful prospects for overcoming some of the obstacles while putting to good use the experience gained from payment for environmental services and trust funds. Effective application of this system nevertheless requires a solid foundation and maintenance of support for the preparatory phases of its implementation is in this regard an important factor for tropical forest financing.

Additionally, a fairly wide range of innovative tools should provide support or useful back-up for the implementation of financing arrangements to be deployed within the framework of REDD+ and beyond. It would for example be appropriate to continue efforts for the sustainable financing of activities that offer few prospects of economic viability and which require significant volumes of aid, particularly conservation programmes, payments for environmental services and verification of timber legality. Trust funds are in this respect more suitable instruments than projects funded over very short timespans, and they should be developed. Generally speaking, support for conservation and sustainable forest management by financing their environmental externalities must be founded on the assignment of value to the ecosystem services rendered by forests and the associated international, national or local payments.

The endeavour to ensure aid efficiency inspired by the Paris Declaration and the Accra Agenda on Aid Effectiveness must be taken further on the basis of reliable performance criteria for the various instruments deployed, rather than on the basis of considerations such as the supposedly greater efficacy of the private sector or the public sector.

Sustainable management and conservation of tropical forests are costly and public, private, national and international actors – French and European cooperation in particular – should mobilise resources to address this.

Scaling-up REDD+ offers good prospects for funding environmental externalities provided by tropical forests.

The lessons learned on aid effectiveness must be fully applied, especially the alignment on national strategies based on a participatory approach in tropical countries.

The experience gained from trust funds and payments for ecosystem services are of great interest for financing sustainable management in general and REDD+ in particular.

Reflection on this must also be focused on the best way of supporting both those economic operators wishing to effect genuine improvements in their methods and supply chain participants who have no access to the financial mechanisms due to their lack of solvency, in conjunction with efforts to strengthen governance.

F. GOVERNANCE OF FOREST TERRITORIES, FROM LOCAL TO GLOBAL

Governance is a term that refers to the ways power is exercised in organisations and the ways in which societies and individuals are organised. Governance is the manner in which widely differing actors (organisations, public and private institutions, social groups, individuals, and so on) organise themselves at various levels – local, national, regional or global – in order to address a common problem.

In its report of 1995, the Commission on Global Governance, chaired by Willy Brandt, defined governance as *“the sum of the many ways individuals and institutions, public and private, manage their common affairs. It is a continuing process through which conflicting or diverse interests may be accommodated and cooperative action may be taken. It includes formal institutions and regimes empowered to enforce compliance, as well as informal arrangements that people and institutions either have agreed to or perceive to be in their interest.”*

Failures in – or lack of – governance relate to the absence, inadequacy or ineffectiveness of systems designed to manage a common problem. At the level of a national state, such failure derives from, among other causes, absent or inadequate legislative activity, weak law enforcement, lack of checks and balances and corruption on the part of public servants.

Everywhere in the world good forest management requires governance bodies to be formed not only at the local level but also at the national, regional and global levels. At local level, the interests of forest stakeholders are sometimes in conflict: more or less well organised forest populations within communities, companies exploiting forestry, mining or oil resources, representatives of local government and the frequently underrepresented national forest services. What model of local governance for forest territories should be promoted? What tools should be used to improve such local governance of territories in order to improve dispute settlement and consideration for the interests of the various stakeholders in decision processes?

At the regional and international levels, forest governance is visibly highly fragmented, split between the United Nations Forum on Forests, the Forest Committee and the Regional Commissions of the FAO, the three Rio Conventions and a number of other international and regional instruments. There continues to be marked divergence between the views of participants in international negotiations, particularly in connection with the Climate Convention and the United Nations Forum on Forests.

Regional processes, both voluntary and legally binding, such as COMIFAC or CBFP, have in some cases led to more concrete progress, and processes involving actors in civil society are growing in importance. Should changes in the international context for forests lead us to prefer new forest governance arrangements at the regional and international levels?

1. Local governance of forest territories

Local forest governance raises a number of questions, particularly legitimacy, responsibility and access to and sharing of forest resources. The management situation can vary widely according to the category of actor responsible for forest management and according to the rights and resources allocated to such actors.

Stronger State action for the sustainable development of forest territories

The role of the State in the governance of forest territories is fundamental. This is because in many tropical countries, the forests belong to the State, which imposes more or less strict management rules. Verification of observance of those rules, rights to use forest areas granted to private companies or local populations and development policies are all levers used by the State to co-manage forest territories. Nevertheless, in many countries, the official services lack personnel, have little presence in far-flung forest territories, and their capacity to verify compliance or enforce the laws is restricted by the very limited resources they are given (cf. Chapter II.D).

Moreover, the public policies applied in forest territories are frequently mutually contradictory: some promote conservation and the sustainable management of natural resources while others are a cause of the disappearance of forests. In many tropical forest countries, forests are sometimes seen as unproductive, valueless and even hostile areas which have little relevance to the country's development and over which the government would like to exercise more control. Many public policies are thus directed at conquering forest territories in order firstly to exploit their many natural resources and secondly to bind them more tightly to the national space, or even to secure them against territorial claims made by neighbouring States or their use as locations for illegal activities such as growing illicit crops for the narcotics trade.

For these reasons, the governments of countries in the South sometimes grant subsidies to economic sectors that involve conversion of forest land. For example, government grants to the cattle industry in the Amazon or the paper industry in Indonesia have led to extensive deforestation. The support may also involve the industrialisation of timber supply chains: the aim is, using direct grants or prohibitions on the exporting of unprocessed product, to encourage operators to invest in the local processing of products to generate greater value-added. However, when the capacity for industrial production is in place, it requires supplies of the

commodity to be procured and this is sometimes achieved in a manner prejudicial to the natural forest.

Occupation of forest territories may also be facilitated by the construction of infrastructures, policies on migration or specific legislation on land. For example, certain land tenure regimes authorise deforestation by allocating legal title to operators clearing areas of forest to plant agricultural crops. Concern may also be felt regarding the impact on forests of the acceleration of the phenomenon of land grabbing by private companies and foreign movements in Africa, Asia and Latin America. Indeed, in the eyes of governments wishing to occupy forest land, deforestation is more a way of adding value to those areas than it is a degradation of them. Such rights are usually allocated as part of agrarian reforms which, although economically and socially necessary, nonetheless have extremely damaging effects on forest ecosystems.

In many tropical forest countries, the State allocates industrial logging concessions covering large areas to private companies. This choice of forest concession allocation is presented as technical and economic in character: only well-capitalised companies can operate on an economically viable basis, which will have positive impacts in terms of employment, increased fiscal revenue and, more generally, the country's economic growth. Logging does in fact require substantial investment and equipment unavailable to most of the local populations living in forest logging zones. It would however seem to be necessary to put this fairly generalised observation into perspective: the artisanal and informal sectors in fact use more labour than the industrial sector; moreover, the technical and economic criteria applied when allocating concessions can be influenced by corruption on the part of some public servants. Furthermore, the level of taxation levied by governments will depend to a large extent on the profitability of the logging operations, although certain avoidance mechanisms do exist, notably based on a separation of production activities from trading activities. This forest logging model leads, in situations where the State is underrepresented in terms of its forest services in the operational areas, to the de facto delegation to the private sector of the administration of the forest territories concerned, subject to a set of contractual obligations, i.e. the forest management plan.

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Such take-overs of social responsibilities (e.g. health, education) and regional development (road infrastructures, zoning) by the private sector leads to a problematic situation. It fosters conflicts between local forest communities and the logging companies. The arrangements for dialogue put in place by the most virtuous companies in connection with certification schemes do however allow such social conflicts to be substantially reduced. In Brazil, for example, the FSC certification of the forest management of Cikel, a company, has been made conditional upon participatory demarcation of the areas used by traditional communities for their hunting and gathering,

In the final analysis, while the strengthening of State action in forest territories can be seen to be necessary, that action must be conducted with a view to sustainable development that includes preservation of the forests.



Forest communities, Central Africa. © Christian Chatelain

Aid programmes should therefore pay more attention to building the capacity of the State to monitor and control the implementation of sustainable forest management by looking closely not only at forest regulations but also at social and economic regulations. It is by enhancing the monitoring of regulations, and especially spatial planning measures applied by forest services, and stepping up State controls and mechanisms for sanctions, that legislation will be more effectively enforced and the social, economic and environmental objectives of the regulations will be pursued in a sustainable fashion. In situations where corruption is a potential impediment to more forceful action by the State in forest territories it is also necessary to look at effective measures to combat that corruption. To that end, it would also be important to put in place economic incentives to apply the law and, looking beyond this, to reflect on concrete solutions, on a sectoral or inter-sectoral basis. Moreover, support from central public administration must be backed by activities on the ground that build capacity and multiparty dialogue through practical action, provide demonstrations and promote a sense of ownership.

Internal and external recognition of concerned local groups

It is now very widely recognised that the sustainable management of natural forest resources is inconceivable without the involvement and empowerment of the local population. The minimum requirement for local management to achieve substantive results is recognition, both internal and external, for the local group involved, whether it is a community or a local government body.

Internal recognition of a community by its constituent members means that the latter must share the declared objective, want the programme and see their needs reflected in the organisation that is set up. Unfortunately, it is often the case that such internal recognition is not a foregone conclusion. Within any one community, local society will present wide variations characterised by highly diverse social and economic positions. In reality, factors as important as the role of cash crops, the relative proportions of trees to be cut down or game to be hunted to supply urban markets, or the wish to build roads to facilitate access to the forest are all subjects of interest to particular groups that may come to contradict the reductionist vision often put forward of a local community coming together around a common ideal of sustainable resource management. Support for the structuring of communities with shared interests is of therefore a complex topic that has been little studied despite its fundamental importance for stronger local governance of forest resources. Aid programmes must seek to put mechanisms in place that can facilitate dialogue between stakeholders with differing interests in order for forest management decisions to be reached that take account of all the issues surrounding the management of the territory concerned.

External recognition from the public authorities of communities and/or local government as fully-fledged partners in dialogue is also fundamental: all too often groups, communities and villages are excluded from decisions on collective management due to their lack of status as legal entities. In very many cases, government regulations take no account of long-established organisations based on solidarity but nevertheless do not control local practices. If modes of local governance of resources based on community management are to function correctly, some form of legal recognition must be defined to ensure that such local groups can become genuine forums for reaching decisions. When local actors need to manage financial resources generated by forestry activities it is also important that such local bodies enjoy financial autonomy. The approach favoured until now in some Central African countries for the promotion of local development, i.e. the redistribution of part of the forest tax revenue to local authorities, can be seen to be rather unsatisfactory given the frequent misuse of the sums thus collected. Such situations of poor local governance must not however call into question the principle whereby communities should be empowered for their own development. They simply show the degree to which the conditions for internal recognition must be met, despite the difficulties this involves, if the allocation of resources generated by forest resource exploitation are to contribute effectively to local development of benefit to the local population.

Such an approach to external recognition of communities undoubtedly requires wide-ranging national debates on these questions. That approach should therefore go further than simple decentralisation of the administration and include proper training targeting the various stakeholders,

effective transfer of competencies and responsibilities, transfer of assets and recognition of the occupation of land, in order to ensure that local entities recognised in this way can take public decisions on the management of the relevant territories.

Support for participatory zoning of forest land

Over and above the consolidation of the rights and resources available to local communities for the management of forest resources, the issue of the role of the local population in forest management planning is one of the controversial points and needs to be addressed in greater depth. The zoning of forest land in the collective interest and the securing of land tenure rights in the relevant countries are points on which it can be seen to be necessary to focus action, notably in order to facilitate the debate between national actors.

In some countries, specifically in Central Africa, consideration of rights of use enjoyed by the local population is partly a matter of negotiation between companies and the managers of forest communities within the framework of the forest management plan. However, numerous conflicts between different uses continue to exist between these two categories of actor.

The zoning of uses of forest land in consultation with the local population and stakeholders is a recommendation reiterated by the GNFT in order to ensure proper consideration for the place occupied by the local population in the governance of the relevant territory. In this respect, a change of scale would seem to be useful in order to design forest management plans at the level of the landscape as a whole rather than at the level of the logging concession as such. However, it would be necessary to go further than simply applying default zoning of areas not yet allocated, in the form of industrial concessions for example. Certain countries such as Brazil have committed themselves strongly to this approach, paying very close attention to the allocation of ownership of land and the zoning of land uses. It is also essential to take account of the administrative realities in management plans for the territory, that is to say that such management plans must be thought through with the authorities at the relevant level. Reflection on forest territories must see them as zones of confrontation between multiple interests – agriculture, mining, and so on. This should facilitate dialogue and the embedding of policy focuses in the institutions, thus ensuring the implementation of more legitimate and more effective spatial planning.

2. Forest governance at regional level

Support for regional institutions The creation of institutions enabling forest issues to be addressed at the level of the major tropical forest biomes is an initiative warmly welcomed by the members of the GNFT. This is so because such institutions allow a number of questions that go beyond the national level to be dealt with, as well as improving exchanges of views between policy-makers responsible for forest management, ensuring more effective preparation of multilateral negotiations and improving the coordination of international aid activities.

The Central African Forest Commission (COMIFAC) is an example of such initiatives to improve systems for conservation and sustainable forest management at the regional level to which support should continue to be given. The setting up of COMIFAC was a major political commitment to which there was a strong international response at the Summits in Yaoundé in 1999 and Brazzaville in 2005. It underscores the desire of its Member States to consolidate a shared vision. For many actors on the international scene it is a preferred partner for discussion of forest issues in Central Africa. COMIFAC has enabled common positions to be defined for the Central African States, positions that have influenced international environmental negotiations.

COMIFAC does however suffer from a number of weaknesses: in particular, a positioning that needs to be interfaced more effectively with ECOWAS, the Economic Community of West African States, difficulties in applying the autonomous financing mechanism, resulting in limited internal capacity to address forest-related issues and a lack of channels for contacts within national governments. Aid programmes focusing on the strengthening of institutions at sub-regional level should make it possible to give a firmer foundation to forest governance, which continues to be fragile in these countries.

Special forums for dialogue and reflection have also been put in place to support the COMIFAC convergence plan. Internally, the Conference on Central African Moist Forest Ecosystems (CEFDHAC) brings together actors in the sub-region's civil society, with national chapters and networks dedicated to the various stakeholder categories: parliamentarians, indigenous populations, women, young people, and so on. Externally, the Congo Basin Forest Partnership (CBFP), which came into being at the World Summit on Sustainable Development in Johannesburg in 2002, brings together international partners around COMIFAC and the official forest administrations of its Member States: development partners, international NGOs, international organisations, transnational corporations, international research bodies. The CBFP's voluntary, informal character has contributed greatly to improving the harmonisation of the action taken by the partners and its alignment with national and regional programmes.



Farming landscape, Madagascar. © Stéphanie Carrière, IRD

Stronger South-South cooperation

Although the socio-economic and political contexts are different to an extent across the tropical regions, it does appear to be relevant to strengthen the systems for South-South cooperation in order to encourage exchanges of experience and adoption of best practice. It was in this spirit that an initiative directed at stronger solidarity between forest developing countries saw the light of day in 2011 in the context of the organisation of the Summit of the Three Tropical Forest Basins: the Congo Basin, the Amazon Basin and Southeast Asia.

The Summit's objectives were to: (i) «learn about the current state of forest resources of the basins; (ii) facilitate the signing of the agreement between the basins as a formal framework for consultation and discussions on forestry and climate issues; and (iii) adopt a joint statement on tropical forests, climate and sustainable development in the view to contribute to the future Climate Agreement in Durban, South Africa and in the preparations of the Rio +20 Summit in Brazil."

While it did not in fact lead to the signing of an agreement, this Summit was nevertheless a success in terms of participation, with several Heads of State and Government in attendance (from Central Africa and French Guiana) and numerous government ministers (from Brazil, Indonesia and France). A joint declaration was signed, calling for closer cooperation between the countries in the three basins and the signing of a cooperation agreement. France, a participant Amazon Basin country by virtue of French Guiana, associated itself with this declaration.

3. Global forest governance

Forests occupy an important place in global sustainable development issues. There have been calls from numerous quarters over the last more than twenty years for recognition of the need for stronger international collective action to preserve forest ecosystems. In 1990, the member countries of the G7 meeting in Houston expressed in a declaration their concern at the destruction of tropical forests. A year later, the 10th World Forestry Congress concluded its proceedings with the following statement: *“Problems such as the greenhouse effect, the protection of biodiversity, free trade in timber and the protection of certain habitats and endangered species have shown that an international approach is necessary for an effective analysis of their causes and their effects.”*

A highly fragmented international regime

Despite this apparent consensus on the need for stronger international collective action, international negotiations at the Earth Summit in Rio in 1992 resulted in a text whose title is indicative of the very limited constraints placed on the States that adopted it: *“A non-legally binding authoritative statement of principles for the management, conservation and sustainable development of all types of forests.”*

Following this, international dialogue on forests continued in strictly forest-related forums: the FAO Committee on Forestry (COFO), the World Forestry Congresses, held every six years since 1926 (under the auspices of the FAO since the 1949 Congress), and the United Nations Forum on Forests (UNFF). Set up in 2000, the UN Economic and Social Council, the UNFF forms “the International Arrangement On Forests *“with the Collaborative Partnership on Forests”* (cf. Sidebar 26). It drafted a *“Non-legally Binding Instrument on Sustainable Management of All Types of Forests”* that was adopted in plenary session the United Nations General Assembly in December 2007. The objective of the Instrument is: *“(i) To strengthen political commitment and action at all levels to implement Sustainable Forest Management and to achieve the Global Objectives on Forests; (ii) To enhance the contribution of forests to the achievement of the Internationally Agreed Development Goals, including the Millennium Development Goals, in particular with respect to poverty eradication and environmental sustainability; and (iii) To provide a framework for national action and international cooperation.”*

Sidebar 26 The international arrangement on forests

In 2000, the UN Economic and Social Council (ECOSOC) instituted an “international arrangement on forests.” The principal objective of the arrangement is “to promote the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end.” Working through the arrangement, ECOSOC created the United Nations Forum on Forests (UNFF) and called for the setting up of a partnership on forests between concerned United Nations organisations and the heads of other relevant international and regional organisations, institutions and instruments “to support the work of the United Nations Forum on Forests and to enhance cooperation and coordination among participants.” The partnership called for was set up in 2001 as the Collaborative Partnership on Forests (CPF).

The CPF brings together and coordinates 14 organisations involved in forest-related issues: the FAO, the International Tropical timber Organisation (ITTO), the Centre for International Forestry Research (CIFOR), the International Union of Forest Research Organisations (IUFRO), UNDP, UNEP, the World Bank, IUCN, the International Centre for Research on Agroforestry (ICRAF) and the UNFF, CBD, UNFCCC, UNCCD and GEF secretariats. The CPF is chaired by the FAO. The CPF conducts a range of work on forests and climate change, forest degradation and the financing of sustainable forest management, in addition to the harmonisation of forestry terms and definitions.

The international arrangement on forests is to be re-examined at the 11th session of the UNFF to be held in 2015.¹

Alongside this, there are many other institutions and treaties that deal with international forest issues. The International Tropical Timber Agreement (ITTA) was signed in 1983 under the Integrated Programme for Commodities of the United Nations Conference on Trade and Development (UNCTAD). The International Tropical Timber Organisation (ITTO) was set up in 1986 to ensure implementation of the provisions of ITTA and monitor its operation. It comprises 33 tropical timber producing countries and 26 tropical timber consumer countries, accounting in total for 95% of world trade in tropical timber and 80 % of the planet’s tropical forests. The new ITTA was signed in 2006 and came into force on 7 December 2011.

The United Nations Frame Convention on Climate Change, UNFCCC, and its Kyoto Protocol come at forests from several angles. Firstly, the Convention put in place accounting rules for greenhouse gas emission and absorption relating to Land Use, Land Use Change and Forestry (LULUCF) in countries with quantified commitments. Secondly, it established a mechanism for the reduction of emissions linked to deforestation and forest degradation in developing countries (REDD+, cf. Chapter II.E). The Copenhagen Agreement recognised towards the end of 2009 the need to put in place a mechanism of this

¹ For a more detailed overview of global forest governance, cf. MAEE, MAAPRAT, MEDDTL, MINEFI and MOM (2012)

Table 8 The main international legal instruments on tropical forests

	In force since:
Relating to forests alone:	
Non-legally Binding Instrument on all types of forest	2007
International Tropical Timber Agreement	2011
Important with regard to forests:	
Convention on Biological Diversity (CBD)	1993
United Nations Frame Convention on Climate Change (UNFCCC)	1994
United Nations Convention to Combat Desertification (UNCCD)	1996
Containing elements relating to forestry issues:	
Ramsar Convention on Wetlands	1975
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	1975
ILO Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries	1991
Convention on the Conservation of Migratory Species of Wild Animals	1983
Convention Concerning the Protection of the World Cultural and Natural Heritage	1972
Convention for the Safeguarding of the Intangible Cultural Heritage	2003
World Trade Organisation (WTO)	1995

kind immediately, and the Cancun Conference in late 2010 adopted the broad lines of the mechanism, which were fleshed out in part at the Durban Conference in December 2011, when the Green Climate Fund was also set up.

The Convention on Biological Diversity (CBD) also addresses forest-related issues since forests represent the majority of the planet's terrestrial biodiversity. Since 2005 the Convention has had a working programme on biological diversity in forests in terms of habitats and species and an expert group dedicated to this question. The Nagoya Conference in October 2010 drew up a strategic plan for biodiversity over the next with important Aichi Targets for forests, including Target no. 5: *“By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced”*

Other multilateral agreements address issues relating in varying degrees to forests (cf. Table 8).

The large number of international agreements and negotiating forums with greater or lesser relevance to forests is revelatory of the fragmentation and complexity of the international forest regime. Although the Collaborative Partnership on Forests (CPF) endeavours to give structure to the discussions in these different forums, it nevertheless suffers from a lack of political and institutional weight in promoting efforts to improve coordination. This situation makes the achievement of targets for conservation and sustainable forest management more difficult, as it does the highlighting of the value of the contribution made by forests to sustainable development.

The potential contribution of a dedicated United Nations agency for the environment

The fragmentation of negotiation and decision forums on forests brings two problems with it: firstly, a lack of coherence and coordination between the work done in the various forums, which is a drag on synergy of action and the associated finance, and also holds back the achievement of conservation and sustainable forest management goals; and secondly, a difficulty in making the link between forest issues and the other major sustainable development issues, which weakens the contribution made by forests to sustainable development. Given this, it would seem to be relevant to inject new energy into the collaboration between forums dealing with forest issues.

With this in mind, the project for the creation of a dedicated UN agency for the environment offers encouraging prospects for the future. The proposal is supported by France and more generally by the European Union along with many other countries in the context of the negotiations leading up to the Rio+20 Conference. The recommendation that a dedicated UN agency for the environment be set up stems from the observed fact that global governance of sustainable development lacks a properly structured environmental pillar: it is currently split between over

Flying dragon lizard, Danum Valley, Borneo. © Jonathan Saulnier, ministry of agriculture, agrofood and forestry



500 fragmented, compartmentalised multilateral agreements and processes. Moreover, the United Nations Environment Programme (UNEP), created in 1972, due to its status as a programme, brings together only a limited number of countries and operates on the basis of voluntary contributions from its members, unlike the specialised agencies of the United Nations, whose funding comes from mandatory contributions. The dedicated UN agency for the environment will be built on the foundations of UNEP and, by adopting the status of UN specialised agency, can set up on an equal footing with the other specialised agencies. It will have, most notably, a remit to improve the coordination between multilateral agreements on the environment, within the limits set by adherence to the legal autonomy of those agreements but with the imperative objective of addressing more effectively major transversal challenges such as deforestation.

Forests form a sector representative of the issues surrounding sustainable development since they are sources of revenue and employment, are anthropised environments with substantial cultural value in some cases, and render important environmental services. An overview of global governance of forests highlights this special status: forests are involved in social, cultural, economic and environmental agreements and instruments. As a consequence, in order to ensure the overall coherence of the various policies and strategies on forest-related issues, there is a need to establish close dialogue between all the competent bodies, a dialogue that the CPF endeavours with some difficulty to channel at the present time. The creation of a dedicated UN agency for the environment should inject new energy in this regard.

This new dynamic in global forest governance would remedy the current failings:

- › The driving role of a FAO/dedicated UN agency for the environment tandem would improve institutional coordination, which will notably allow a considered judgement to be reached on the utility of an international convention on forests.
- › The dedicated UN agency for the environment would be likely to facilitate synergy between sources of environmental finance for forests, and work, along with the other concerned organisations, towards better coordination of funding for the forest sector.
- › As an organisation of structural importance on environmental issues, the dedicated UN agency for the environment would be a partner for dialogue with the other major international organisations and would thus help the various multilateral agreements on the environment to make their specific objectives part of a holistic vision. It would in this way add value, in conjunction with the FAO, to the contribution made by forest conservation and sustainable management to sustainable development objectives.

4. Towards a pluralist, coherent approach at every level

At the local level, in line with the initiatives conducted under the FLEGT programme, it can be seen to be necessary to support every initiative capable of strengthening the planning and control activities of States in their forest territories, serving the plurality of forest issues, actors and contexts. Such initiatives must be implemented in conjunction with those offering internal and external recognition for local entities through support for the organisation of forest communities, the clarification of their rights and the expression of their interests. In this way, support for local initiatives must be mutually complementary with support for the forest management policies of national governments and local authorities, since these two approaches foster convergence towards sustainable management planning for forest territories, particularly on the basis of participatory zoning of areas at a geographical level above that of the logging concession. This integration of the forest issue into spatial planning must be consistent with land policies (agrarian reforms, decentralisation of forest ownership, improvements in land registry systems, etc.).

Forest governance cannot be seen in isolation, without taking into account the interactions between the forest sector and the various sectors of activities which potentially have a major impact on the state of forests (the agricultural, transport, energy and mining sectors for example). It thus turns out to be necessary to improve coherence with the strategies of private-sector actors in order to define a holistic approach to forest governance. This effort to ensure coherence must also apply to international investments and French, European and multilateral development aid.

Improved governance at regional level necessarily involves a strengthening of those institutions that have strong legitimacy and are able to play a pivotal role in terms of guiding regional policies and defining common negotiating positions, for example. To achieve this, it is also important to improve the consistency between, on the one hand, the policies and programmes of regional institutions and national governments, and, on the other, between those different regional institutions. Lastly, such institutions can also act as a vector for stronger South-South cooperation, thus strengthening the overall coherence of tropical forest policies.

At global level, in light of the fragmentation and weakness of the international arrangement on forests, it is apparent that solutions must be found to improve the coordination between the various actors in order to create a common vision with

Effective protection of forest land requires renewed investment in clarifying land tenure rights and consideration for the plurality of values and interests involved.

A dedicated UN agency for the environment could help improve the global forest governance by strengthening the environmental pillar and, in tandem with the FAO, by fostering dialogue among major organisations and institutions dealing with forest-related issues.

regard to international forest-related issues. The building of a dedicated UN agency for the environment based on UNEP, with the support of France, offers promising prospects for giving structure to international dialogue on environmental issues. The FAO and the dedicated UN agency for the environment would then be two bodies capable of putting forests back at the top of the international agenda, ensuring greater coherence between the various international forest-related systems.

G. RESEARCH AND IMPROVEMENT OF THE KNOWLEDGE BASE

Since its formation, GNFT has been mobilising French actors in the research field in order to build bridges between scientists, society and political leaders. The White Paper's observation of fact that there is a substantial lack of scientific knowledge on tropical forests led it to make a number of recommendations which continue to be largely relevant. Assessment of the implementation of the White Paper's recommendations indicates that where research is concerned the proposals made by the GNFT have not been fully put into practice (Guéneau, 2012). Given the great complexity and the wide diversity of forest-related socio-ecosystems worldwide, improvement of an inevitably fragmentary knowledge base and wider dissemination of the results of research continue to be among the priorities for action to deal with the various aspects of tropical forest protection on an objective, rigorous basis.

1. What should be the priorities for research?

France has a number of institutions with research units specialising in issues relevant to tropical forests. Moreover, many researchers and research lecturers are working on topics linked to tropical forests without being part of a specialist facility. Taken together, these disparate forces amount to investigative capacity in the first rank worldwide, even if its visibility and applied impact could be increased by means of better synergy between efforts focused on common priorities and supported by dedicated, shared funding. Research bodies that concentrate on the tropics have recently organised their policies in several tropical regions on the basis of priority schemes (CIRAD) or regional pilot programmes (IRD). In addition, the French National Natural History Museum (MNHN) is contributing to the definition of conservation programmes based on knowledge and evaluation of biodiversity, particularly with respect to rare and endangered flora in tropical forests. Its research, especially in eco-anthropology, also contributes to the sustainable use of non-wood forest products and putting the associated expertise to good use. The French National Centre for Scientific Research (CNRS) is also very present in the field of tropical forest ecology and

adaptive mechanisms, working through its Nouragues research station in the Amazon forest in Cayenne.

The definition of priorities for research needs firstly to be based on existing structural organisations at both national and international levels and secondly on recent reflection highlighting imbalances and gaps.

In this connection, research programme n° 6 (CRP6) of CGIAR (Consultative Group on International Agricultural Research) "Forests, trees and agroforestry: means of subsistence, landscape and governance", conducted in collaboration with several international research institutes, provides a solid basis that can be used by French systems of research to engage in fruitful scientific collaboration. This is so because CRP6 is a global framework programme that over a period of ten years will be giving structure to the whole range of activities conducted by the four associated international facilities – CIFOR, ICRAF, Biodiversity International and CIAT – with openings for partnerships in the North and the South.

This programme identifies five broad research priorities (cf. Sidebar 27). Each of these corresponds to a research component covered by operational programming over a period of three years as defined in workshops in which the various French institutions, CIRAD and IRD among them, have participated.

Sidebar 27 The five priority focuses in CRP6

Production systems for smallholders and the corresponding markets:

- ▶ Increased productivity and sustainability of the forestry and agroforestry practices of smallholders, especially food security and advantages in terms of nutrition, based on improved management of production systems.
- ▶ Generation of higher income and facilitation of market access for smallholders based on the exploitation of forest resources and agroforestry.
- ▶ Improved policies and institutions for greater social benefits and the obtaining of rights to forests, trees and land.

Management and conservation of forests and tree resources:

- ▶ Understanding the threats to populations of important tree species and formulation of strategies for effective, efficient and fair genetic conservation.
- ▶ Conservation and characterisation of high-quality germplasm for forest tree species of high agricultural value.
- ▶ Improvement of forestry techniques and monitoring for the management of a range of uses of forest ecosystems.
- ▶ Design of tools and methods to resolve conflicts relating to the distribution of benefits and rights in the exploitation of forest and tree resources.

Management of the landscape with a view to environmental services, biodiversity conservation and means of subsistence:

- ▶ Understanding the drivers for forest transition as a necessary prerequisite for forest management.
- ▶ Understanding the consequences of forest transition for environmental goods and services and means of subsistence.

- › Increased consideration and political options for the support and maximisation of environmental and social benefits offered by multifunctional landscapes.

Adaptation to climate change and climate change mitigation:

- › Gaining benefit for mitigation of climate change from forests, trees and agroforestry.
- › Enhancement of adaptation to climate change based on forests, trees and agroforestry.
- › Understanding the role of forests, trees and agroforestry in generating synergy between the mitigation of climate change and adaptation to climate change.

The impact of trade and investment on forests and local populations:

- › Understanding the processes and impact of forest-related trade and investment.
- › Enhancement of political responses and options for the mitigation of negative impacts and benefiting from the positive effects of trade and investment.

Source : CIFOR, 2011b

Another structurally important component is to be found in the results of the research programme on tropical ecosystems funded by the Ministry of Ecology, which was conducted between 2005 and 2010 (GIP-ECOFOR, 2010). This programme ended in a reporting conference at which a number of recommendations were made, notably the following:

- › The importance of encouraging research projects conducted at high levels of biological integration (across communities, ecosystems and landscapes) and potentially very useful in terms of land management and spatial planning;
- › The need to adopt a more far-reaching sociological approach (restoring human beings and their techniques to a central place in the ecosystem) and closer ties between researchers, managers and local communities.

It is apparent that it is fundamentally important to conduct such research into tropical ecosystems within the framework of a new research programme giving structure to and fostering projects of modest size closely focused on both science-based and application issues. Several reasons – political, scientific and operational – justify a programme of this kind. Politically, the major environmental conventions place great emphasis on tropical ecosystems and French overseas territories have a special place in this respect. Scientifically, their diversity and complexity make tropical ecosystems a rewarding subject for research. Certain specific features of the tropics, the result of a long evolutionary history, merit close study (the importance of microorganisms, extremophiles, the fundamental role of interactions and co-evolution between plant and animal organisms, methane emissions due to termites and bromeliads, emerging diseases, forest-dependent human populations, the need for efficient management of the knowledge base). Operationally, it is important for there to be programmes that allow young teams to start out, to foster risk-taking on new and original research objectives, to raise

leveraged finance and to remedy the gaps in previous programmes or the current system for financing French research (especially the financing of combined international teams comprising both French researchers and researchers from countries in the South).

The regional ERA-NET project NET-BIOME set out to coordinate public policies on research into the management of tropical and subtropical biodiversity in the ultraperipheral regions of the European Union in support of sustainable development. Although the project has now ended, it was able to mobilise researchers by calling for research projects and mobilising French overseas communities. Continuation of this initiative should be supported in connection with the future European research and innovation programme HORIZON 2020.

A unique feature of tropical forest research is that it covers complex subjects requiring simultaneous input from a large number of scientific disciplines, something that is not always easy to accept in a conventional academic framework. The characterisation of forests and their evolutionary dynamic requires an understanding of the close interactions between ecological conditions and ecosystems and the omnipresent influence of human beings. At local level this includes the study of populations and their vulnerability to change, along with, more generally, research into economic instruments and public policies. Research thus studies forests as ecological and social systems, with the emergence of new forms of remuneration for goods and service rendered by forests, such as payment for ecosystem services, examination of which calls on both ecology and the human and social sciences.

And lastly, it is important to take account of the work done assess and identify the need for operational knowledge and the associated issues. In this context, it is worth citing recent joint research by AgroParisTech and AFD (cf. Sidebar 6 in Chapter II.A) which demonstrates that environmental and social issues are addressed much less in the scientific literature on forest exploitation in Central Africa's industrial concessions, than questions linked to economic issues. This tendency is all the more marked where French-speaking research in the Congo Basin is concerned, this being, according to the authors, "clearly more focused on logging, forestry, and forest management planning as ways of addressing sustainable development issues", although the research concerned is largely work begun in the 2000s. These gaps need to be filled by stepping up or initiating new programmes of research into environmental and social issues.

Additionally, the Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation (Access and Benefit Sharing – ABS) will play a major role for French research agencies not only on French territory (overseas included) but also abroad. This is aimed notably at ensuring legal security for users and suppliers. Special attention was paid to the research domain during the negotiation of this agreement. Facilitated access procedures were negotiated to that end in the Nagoya Protocol on ABS.

2. Ensuring access to knowledge for tropical country actors

French research is at the cutting edge in certain domains such as remote sensing (cf. Sidebar 28). The results of this work points to the possibility of significant improvements in knowledge of changes in ecosystems and forest resources in countries where that knowledge has usually been patchy in the past. Transfers of data and technology are a necessity in this context to improve the ways in which forest ecosystems are monitored in certain countries with which France has engaged in programmes of cooperation, particularly as part of the preparatory phase for REDD+.

Sidebar 28 Remote sensing and forest-related issues in the tropics

Remote sensing, or space-based observation, covers a range of methods and data for the remote observation of the earth's surface and certain of its characteristics – forest vegetation for example – from the sky or from orbit. The data consists of electromagnetic signals in the optical range (wavelengths in the micrometric range: infrared, visible light) or in the microwave and hyperfrequency ranges (wavelengths in the centimetre to metre range), by sensors carried on aircraft or satellites. There is a distinction between, on the one hand, “active” instruments, where the device itself emits a signal (e.g. radar, optical laser altimetry – also known as Lidar), and then recording the part of the signal that is reflected back after interacting with the vegetation and, on the other “passive” devices (optical in the main), which record the signal emitted naturally by the earth's surface when illuminated by sunlight.

Remote sensing has long been a valuable tool for forestry given the constraints of forest management in general and tropical forests in particular, these being most notably the sheer scale of the areas to be covered, the difficulties of access and the limited human resources available to make observations or repeated inspections on the ground. Airborne photographic imaging has been in regular use in temperate countries since the 1950s, but overflight costs have ruled it out as a tool for the regular monitoring of tropical forests. At a time when REDD+ and PES are highlighting issues relating to monitoring, notification and verification, the diversification of remote sensing data sources, especially satellite-based, leads to a possibility that such sources may provide increasing input for building baseline scenarios and regular monitoring. For example, at the Durban Climate Conference (COP17), France reiterated its commitment “to make available high-resolution optical satellite imagery from the SPOT constellation free of charge for the measurement and greater understanding of the impact of deforestation in the Congo Basin” and to assist countries in putting their national strategy in place.

In fact, the use of optical satellite imagery¹ for the observation of vegetation and forests has a long history, beginning in the 1970s with medium to high-resolution space-based sensors (image pixels measuring between 70m and 10m). This imagery

¹ Using wavelengths in the visible light range, the near and in some cases far infrared, as measured by “historic” sensors: MSS, Landsat TM, Spot HRV XS 2, 3 and 4



Farm settled after forest logging in Amazonia, Pará state, Brazil

©CNES 2009 - Distribution Astrium Services/Spot Image

is used intensively by projects for territorial planning and for forest resource management planning, and in particular for the production of maps detailing how land is occupied and/or the types of plant cover. Subject to adherence to a prudent and rigorous approach (which entails systematic ad-hoc reality checks on the ground), such mapping-type approaches have demonstrated their relevance and operational effectiveness at scales ranging from local development projects and forest mapping across regions, to the estimation of forest areas at the continental and global levels². Some of these approaches are therefore acknowledged to be suitable for a major role in monitoring deforestation³, insofar as the main limitations on availability of the imagery can be relaxed, such limitations having been hitherto in the tropics the cost of purchasing the data, the low rate of repetition of data acquisition in tropical zones and interactions with problems arising from the virtually permanent cloud cover in some areas near the equator. The construction of ground receiving stations in these regions, coupled with supply of the data free of charge (or at subsidised rates), could in the long run reduce the effect of this imbalance in access to space resources and allow the difficulty of quasi-permanent cloud cover to be circumvented through massive acquisition

² As is shown by the recent TREES FAO-JRC project “Global Forest Remote Sensing Survey” and work relating to various REDD projects or national initiatives (e.g. Mexico).

³ Cf. SEAS in Cayenne and in Libreville in the near future.

of images. If they are to become reality, these future possibilities will therefore require strong determination on the part of the donors, which must also allow beneficiary countries to develop their human resources to match the techniques involved, as well as their facilities for processing the resulting information.

While the relevance of optical satellite-based remote sensing for monitoring deforestation is well established, its potential in the large-scale monitoring of forest degradation and measurement of epigeal biomass, as well as, more generally, in qualifying forest types continues to be in more doubt and more dependent on context and existing methods or methods still in development. These are in fact manifestly more complex issues. The main problem encountered is that of saturation of the optical signal at intermediate levels of plant cover and therefore of epigeal biomass, which restricts the possibilities for analysis of degradation gradients (and of biomass loss) where the canopy cover is of medium to high density. Other limitations can be added to this, such as sensitivity to atmospheric effects, which makes the results highly dependent on the geographical and ecological context, operators' field expertise and the relevance of the chosen mapping thematics. In light of these problems the diversification of sensors and types of data in remote sensing offers interesting prospects, although most are still at the research or pilot study application stage.

Radar waves, which are unaffected by the atmosphere and can penetrate plant cover to characterise the three-dimensional structure of the forest more effectively, have been the subject of research since the 1990s. This has demonstrated the advantages of intensity data from short-wavelength sensors⁴ in studying epigeal biomass up to 100 tonnes of dry matter per hectare, a threshold above which the tendency of the signal to saturate makes itself clearly felt. Radar data for terrain with marked variations in relief also correlate less well with ground data. Unfortunately, such areas are often the last refuge for forests that have been disturbed more or less significantly. Current research is focused around the mutual complementarity of different ranges of wavelength offering differing levels of penetration since these provide information in different compartments (leaves and twigs, branches, trunks, etc.), and on wider use of the information in the back-reflected signal using interferometry for estimations of canopy height, or polarimetric indices.

In the optical domain, the arrival of satellite imagery offering very high spatial resolution (pixels down to 1.5m or less⁵) now provides access to levels of information on the canopy comparable with airborne photography. Access to visible structures in the canopy (crown size, possible gaps) opens up specific avenues for the characterisation of forest types as well as for the estimation of epigeal biomass, by exploiting the allometry between crown size and the biomass of the dominant trees. Nevertheless, access to such imagery is still limited and its wider availability will depend on the interest taken in it by donors or the creation of infrastructures that make cost reductions possible. This imagery already has an interesting part to play in terms of an approach based on territorial sampling, making the link between inventory plots on the ground and high-resolution space-based imagery, whose availability should increase rapidly (see above) following international undertakings.

Pierre Couteron, IRD

⁴ Cf. L- band Synthetic Aperture Radar as carried on ERS, JERS and ALOS satellites.

⁵ Cf. the data produced by Ikonos, Quickbird and GeoEye and the recent Pleiades launch.

The document presenting the CRP6 research programme suggests ways forward in this direction, highlighting the inadequate technical skills in the countries where the research will be applied. The major international research bodies observe not only a lack of skills in the various disciplines linked to tropical forests, but also a situation that is worsening.

In order to remedy such deficiencies, there is a need to support programmes to foster recognition of the expertise of researchers in the South for local leaders and to support the use of research workers from the South in companies in the private timber-forest sector and more generally in expert evaluation work. Lastly, greater involvement of such researchers should be promoted in defining the focuses for research in the South in partnership with the private sector and policy-makers right from the initial design of research programmes on tropical forests. Projects that meet these requirements have already been implemented, such as the “Sud Expert Plantes” (cf. Sidebar 29). It is important to continue efforts in this direction, which is fully in line with the Busan targets which led to the creation of the Intergovernmental Platform for Biodiversity and Ecosystem Services (IPBES): capacity-building is indeed one of the key functions of this platform.

Sidebar 29 Strengthening the knowledge base in the South: the example of the “Sud Expert Plantes” programme

The “Sud Expert Plantes” (SEP) programme covering the years 2006-2012 has led to the creation of an international South-South and South-North master’s degree course on tropical plant biodiversity, re-establishing in France a tropical botany discipline that had disappeared from syllabuses, and training specialists that are lacking in France, in conjunction with specialists from the South and other European specialists, thus putting to good use in the context of an international course the complementary lessons learned in the South and in the North, in the spirit of the Erasmus exchange scheme, as extended to the South.

The programme has also yielded excellent scientific results in the form of the publication of 120 papers, 93 in peer-reviewed journals. Thanks to the SEP programme, 18 herbariums and botanical gardens have been modernised and a third of 660,000 specimens digitised.

Lastly, SEP has enhanced Francophone participation in the major international biodiversity forums.

3. Improved communication of research recommendations to policy-makers

Scientific progress in the tropical forestry domain has led to major gains in knowledge of the functioning of exploited tropical forest ecosystems. Unfortunately however, as the results of a recent scientific conference have shown (IUFRO, 2011), the extent to which the forestry knowledge acquired over more than a century is taken into account by forest managers varies greatly from region to region. For example, Central Africa and French Guiana have adopted technical standards for forest management planning and logging that have been widely implemented and stem directly from research. Conversely, in Indonesia, straightforward economic interest has led to a situation in which the technical recommendations put forward by researchers to adjust harvesting to commercial species' capacity to regenerate (Sist et al., 2003) are ignored or set aside by the public authorities, preference being given to new regulations that reduce minimum cutting diameter and rotation duration, thus creating a genuine risk for the renewal of the resource. This despite the fact that it is now possible to define forestry rules based on scientific data that are more adapted to the capacity for reconstitution of forests subject to logging. This example shows the need for research to be more closely connected with the main decision centres. The importance of research results should be highlighted for the various public and private sector actors at different levels of governance (international negotiations, definition of public policies, the financing of aid programmes, field projects, etc.). The holding of open seminars for reporting the results of research and the drafting of documents popularising scientific data should be a part of all research programmes. The participation of researchers in committees for the programming of aid projects, in forest negotiation forums and in forums in which public policy is defined – as providers of expert input for example – should also be given priority.

The CoForChange Biodiversa regional project for example, co-financed by the National Research Agency (ANR), mobilising 14 institutions in four European countries and four Central African countries, is the organiser of a regional workshop to report and share its results with a hundred or so scientists and policy-makers in Central Africa, the aim being to ensure that this new knowledge leads to an in-depth revision of the standards applied to logging throughout the region as a whole.

Knowledge has channels for dissemination in Observatories that bring together numerous disciplines and provide political leaders with the information they need. OFAC, the Observatory for the Forests of Central Africa, thus makes available for all audiences information collected each year from public and private actors in the countries concerned, publishing an overview report every two years – “State of the Forests of Central Africa” – which can be obtained from its website (<http://www.observatoire-comifac.net/>). Observatories at different spatial scales – local or global landscapes – are being prepared, for the “landscapes” of Central Africa for example

(e.g. Sangha Tri-National, TRIDOM) or at global level in the “Sentinel Landscape” initiative promoted by the CGIAR’s CRP6. It is also necessary to ensure that the knowledge acquired can be mobilised to match the needs of policy-makers as identified under IPBES, which has the notable role of building links between science and politicians.

4. Reliance on knowledge

To conclude this chapter, we should recall France’s attachment to reliance on knowledge in developing shared visions of the forest world. Issues relating to training, education and research have always been at the core of thinking about the future and they are particularly acute when the need is to consider the ongoing development of complex forests in a context whose intrinsic logic is based on the long term.

The continued pursuit of robust programmes for research and improvement is in fact a policy focus that must under no circumstances be neglected. It is only by strengthening the means for research into tropical forest ecosystems, especially in the countries of the South, by developing training programmes suited to the South and by improving the bridges between research, policy-makers and society, that the various technical and political approaches to tropical forests can hope to be able to address the difficulties and the issues involved. Such programmes must be part of a clear strategy defined with the countries of the South and involving all concerned research bodies. Improvement of the knowledge base is however not enough in itself; it must connect the project with future developments by modelling scenarios against a backdrop of global change.

Tropical forest systems are particularly complex and much less well known than their temperate and Mediterranean counterparts.

Recent international analysis provides a robust basis for identification of knowledge gaps and research priorities.

France has a world-class network of laboratories and expertise, as well as solid experience of collaboration with scientific teams in tropical countries.

The impact of the research system could be enhanced by improving access to the results for civil society, forest managers, private enterprise and decision-makers in tropical countries.



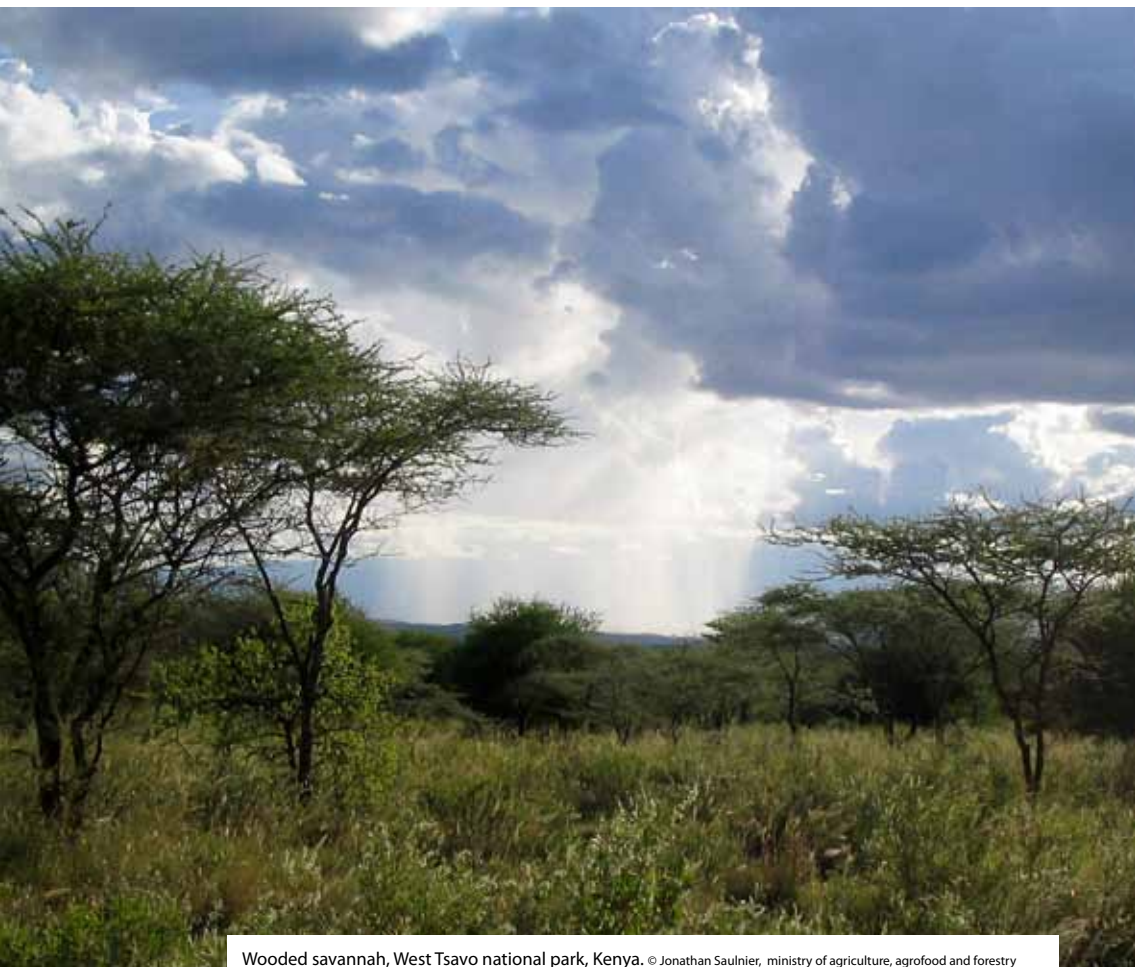
Forest tree nursery in Fouban forest community, Cameroon. © Virginie Chaume, ONF International

CONCLUSION

Since the early 2000s, and especially since the communication to the Council of Ministers of 7 April 2004, the ministries with responsibility for foreign affairs, forests and the environment have been reflecting actively and transparently on the ways in which France can improve its contribution to the conservation and sustainable management of tropical forests.

Deriving from discussion within the framework of the Convention on Biological Diversity, but adopting an integrated approach to sustainable development, this reflection is being conducted on the basis of a partnership that brings together in a working group a large number of stakeholders from diverse backgrounds. It is rooted in the conviction that France and Europe have a shared responsibility in the problems being encountered today for the protection and sustainable management of tropical forests, as well as for the emergence of solutions that require all available energy and goodwill to be mobilised.

The present report is the third, following on from those in 2003 and 2006. Without seeking to minimise problems or to hide differences in concerns,



Wooded savannah, West Tsavo national park, Kenya. © Jonathan Saulnier, ministry of agriculture, agrofood and forestry

the GNFT reports have gradually built up a vision broadly shared by French stakeholders involved in the conservation and development domains. They propose policy and strategy guidance for French actors and contribute specifically to a gradual refocusing of the priorities and approaches adopted by French Ministries and government agencies, not only in French overseas territories but also through diplomacy on global public goods and bilateral, European and multilateral aid.

This third GNFT report enables us to assess how far we have come and to clarify core French convictions along with gradual adjustments and emerging priorities. In the Rio+20 context, it provides a positive, although nuanced, assessment of the achievements in terms of sustainable management of tropical forests since 1992, identifying gaps that need to be remedied without changing course. It also proposes a vision capable of mobilising energies over the next decade.

Core French convictions

The commitment to a **multifunctional approach to forests** has not wavered. This approach allows adjustments to how environmental, economic and social issues are factored in, according to local circumstances. At the same time, a growing awareness of practical problems and the encumbrances of history have led to better understanding of the need, firstly, to support the creation and management of protected areas and, secondly, to give greater consideration to the interests of local populations through suitable forms of governance.

Forest management planning, as a tool to bring environmental, economic and social factors together, has been traditionally promoted by France, putting its centuries of experience and its expertise to good use. However, the tropical forest context requires that close attention be paid to the design of ecological and dendrometric inventories before management planning is undertaken, to forward-looking identification of pressures and threats, and to local social, economic and cultural dynamics. The promotion of forest management planning for small forestry operators and local communities is necessary, but it requires the tool to be adjusted to fit this new context. Ultimately, management planning is a helpful tool of proven worth, but is still only a tool: the results depend also – and primarily – on the long-term goodwill of managers and public authorities.

In populated areas, there is no point in considering forest protection and sustainable management issues as abstract concepts without working at the same time on addressing food and energy needs of relevant communities. **Land planning** must reach beyond forest land alone and consider issues other than those that relate specifically to forestry and ecology. It must include an integrated, multi-stakeholder approach that goes beyond the forest dimension alone to promote land use zoning with local communities. Agriculture and the satisfaction of energy requirements are as much part of the solutions to forest problems, as they are a cause of these problems.

The definition and clarification of tenure rights on forest land has a long history in France, one marked not only by conflict but also by innovative solutions. This experience has led in particular to the emergence of major municipal forest estates in certain regions, reflecting the rights of the local communities, alongside nationally owned forests inherited from sovereign power and private forests. This explains the particular French focus on the promotion of structured collaboration between the public authorities in charge of guiding, controlling and, more rarely, performing, and the other stakeholders, active and grouped together in representative organisations to defend their interests. The protection and sustainable management model proposed by France emphasises the need for a well-organised state authority that cooperates actively with private- and public-sector actors within a structured framework in which each partner does what it can do most efficiently. Generating momentum with both public and private sectors stakeholders is thus necessary and total reliance on any one family of actors is doomed to fail: **parallel reinforcement of civil society and**

State is indispensable, and efforts to counter corruption imperative.

Finally, France has been involved for over a century in strengthening the knowledge base required for inventories and sustainable management of resources in tropical forest areas, through life and social sciences. French research on tropical forests has world-class capacities and also benefits from a solid experience in partnering with scientific teams from the South. This is a key advantage since, given the broad range of current and emerging issues, **higher education and research** have a crucial role to play in improving stakeholders' technical and social knowledge.

Ongoing adjustments

It is more than ever justified for French and European development aid to target major effort in coming years on tropical forest issues, and in particular climate, biodiversity, food security, green and inclusive economy and local communities' livelihoods.

In recent years, headline issues relating to tropical rainforests have tended to mask those of **tropical dry forests**. The new report marks the beginning of an expansion of the scope to this second group of tropical forests. Although less media-friendly, we should not forget their environmental and social importance.

Conceptual, legislative and practical advances in the thinking on protected areas in France and its overseas territories in the last few years is leading quite logically to an adjustment of the **conception of biodiversity conservation** in tropical forests. This report places more emphasis than its predecessors on the need to interconnect protected areas to form networks and on the necessity of taking an active interest in peripheral zones, as well as on the relevance of enhancing **biodiversity outside protected areas**, including secondary forests, considering that anthropised spaces contain a substantial and growing share of forest biodiversity.

In this respect, the **restoration of degraded ecosystems** must also be an increasingly important focus for action.

Public- and private-sector actors in France remain convinced that a strong French and European commitment to **timber legality assurance and the certification of sustainable management** can generate real leverage, even though not all countries abide by such approaches, including some large importers of tropical timber. Given this, such efforts must continue if we are to achieve the goals of the **FLEGT Action Plan**, EU's response to the challenges of illegal logging and related timber trade. In particular, there is a need to improve the interface between, on the one hand, monitoring logging activities on the ground by public authorities, private certification and independent observers and, on the other, the implementation of legality assurance systems for international trade. And lastly, public and private buyers and specifiers must be made more aware of ways in which their demand for tropical timber can be redirected towards products from certified sustainable management. The implementing modalities of the regulation on public timber procurement must be improved.

Beyond this, tropical forests conservation, sustainable management and value-addition issues can no longer be addressed without considering **drivers beyond forests**: other activity sectors, decision-makers/stakeholders, priorities and land use conflicts.

Compared with conventional support with project-based subsidies, **trust funds** and **payment for ecosystem services** offer greater potential for aid efficiency and the mobilisation of national actors, notably in order to help resolve difficult issues linked to protected areas policies. But going down this road also requires shaping up local contributions, reducing transaction costs and preventing risks of misuse of funds.

Neither policy statements, nor the mobilisation of proper skills and adequate resources, nor good intentions will be enough to guarantee that the results are commensurate with the hope invested in a project. That is why the **environmental assessment methodology** must be tested experimentally ex-ante, ex-post and also at reasonable frequency, and adjusted to fit the specific features of tropical forests and local social and economic contexts.

Emerging priorities

Given the sheer scale of **local trade and South-South trade in tropical timber**, it is clear that our current market-based instruments based on North/South trade in tropical timber offer only a partial solution. The **global food situation, the expansion of farmed land area, the demand for bioenergy** and **mined resources** can be a source of further pressure on tropical forest ecosystems, made worse still by the risks arising from **climate change**. The report identifies these major challenges for all protection and sustainable management policies as well as the next task for our collective action, which must involve consideration of zoning and integrated land management, supply chains, and controlling the effects of global demand. It will be necessary to reassess recommended policy directions in the light of the best available knowledge on all these issues.

Growth in demand also requires emphasis on technical pathways and socio-economic models to suit **agroforestry and forest plantations**.

The creation of new protected areas is essential, as is acknowledged in the **Aichi Biodiversity Targets**, but this must be accompanied by **improved surveillance and management of existing protected areas**. The design, application and long-term funding of effective management methods constitute an emerging issue for biodiversity conservation.

There is genuine enthusiasm in many tropical countries for the **deforestation prevention mechanism envisaged in the Climate Convention (REDD+)**, which makes it possible to address concretely the societal causes of deforestation by promoting participatory approaches to analyse the issues and implement required actions. This mechanism must keep scaling up, while bringing in the broad diversity of national and local contexts and addressing the many technical, economic and political challenges that arise, and without losing sight of the need for large-scale results in terms of forest protection.

While certainly not reducing forests to their environmental values alone, France has high hopes for the creation of a **dedicated United Nations agency for the environment**, based on the United Nations Environment Programme, that would work in synergy with the FAO on crucial issues for successful policy on the protection and sustainable management of tropical forests. The movement towards **stronger South-South cooperation among countries of the three main tropical forest biomes** in South America, Central Africa and Southeast Asia, the broad lines of which were sketched out at the Brazzaville Summit in June 2011, is also helping intensify exchanges of experience and encouraging the adoption of best practices.



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ANNEX 2: LIST OF ACRONYMS

AFD:	Agence Française de Développement
AgroParisTech:	Paris Institute of Technology for Life, Food and Environmental Sciences
ATIBT:	Association Technique Internationale des Bois Tropicaux
BEST:	EU “Voluntary scheme for Biodiversity and Ecosystem Services in Territories of European Overseas”
C2D:	Debt Reduction and Development Contracts
CAR:	Central African Republic
CBD:	Convention on Biological Diversity
CBFP:	Congo Basin Forest Partnership
CEFDHAC:	Conference on Central African Moist Forest Ecosystems
CEPF:	Critical Ecosystem Partnership Fund
CGIAR:	Consultative Group on International Agricultural Research
CICID:	Interministerial Committee for international cooperation and development
CIFOR:	Centre for International Forestry Research
CIOM:	Interministerial Committee for Overseas Territories
CIRAD:	Centre for international cooperation on agronomic research for development
CITES:	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CO ₂ :	Carbon dioxide
COFO:	FAO Committee on Forestry
COFOR International:	International Association of Forest Municipalities
COMIFAC:	Central African Forest Commission
CPF:	Collaborative Partnership on Forests
DEAL:	Directorate for the environment, spatial planning and housing (in French overseas départements)
DOM:	French overseas départements
DRC:	Democratic Republic of Congo
ECCAS:	Economic Community of Central African States
ECOSOC:	United Nations Economic and Social Council
EDF:	European Development Fund
EEA:	European Environment Agency
EU:	European Union
EUR:	Euro

EUTR:	European Union Timber Regulation
F-TNS:	Sangha Tri-National Foundation
FAO:	United Nations Food and Agriculture Organisation
FCPF:	Forest Carbon Partnership Facility
FGEF:	French Global Environment Fund
FLEG:	Forest Law Enforcement and Governance
FLEGT:	Forest Law Enforcement, Governance and Trade
FSC:	Forest Stewardship Council
GEF:	Global Environment Fund
GIP ECOFOR:	Public Interest Grouping on Forest Ecosystems
GNFT:	French National Group on Tropical Forests
GRASP:	Great Apes Survival Partnership
GRET:	Group For Research and Technology Exchanges
HIPC initiative:	Debt reduction initiative for Heavily Indebted Poor Countries
ICRAF:	World Agroforestry Centre
IDDR:	Institute for Sustainable Development and International Relations
IEA:	International Energy Agency
IFL:	Intact Forest Landscape
ILO:	International Labour Organisation
IPBES:	Intergovernmental Platform for Biodiversity and Ecosystem Services
IPCC:	Intergovernmental Panel on Climate Change
ITTA:	International Tropical Timber Agreement
ITTO:	International Tropical Timber Organisation
IUCN:	International Union for Conservation of Nature
IUFRO:	International Union of Forest Research Organisations
IWG-IFR:	Informal Working Group on the Interim Financing of REDD
JRC:	Joint Research Centre of the European Commission
LPG:	Liquefied Petroleum Gas
LULUCF:	Land Use, Land Use Change and Forestry
m ³ :	cubic metre
MAB:	UNESCO “Man And Biosphere” Programme
MTCC:	Malaysian Timber Certification Council
NGO:	Non-governmental organisation
NGO:	Non-governmental organisation
OAM:	Mining Activities Observatory
OFAC:	Observatory for the Forests of Central Africa
ONF:	French National Forest Bureau
PAFC:	Pan African Forest Certification
PEFC:	Programme for the Endorsement of Forest Certification
PES:	Payments for Ecosystem Services
PNUD:	United Nations Development Programme
PPI:	FGEF small initiatives programme
RAPPAM:	Rapid Assessment and Prioritization of Protected Area Management

REDD+: United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries
RSPO: Roundtable on Sustainable Palm Oil
SCS: Scientific Certification Systems
SDOM: Mining policy master plan for the département
SEAS: Satellite-assisted surveillance of the environment
SEP: "Sud Expert Plantes" project
SNB: National Strategy on Biodiversity
SYVBAC: System for monitoring the bushmeat supply chain in Central Africa
UNCCD: United Nations Convention to Combat Desertification
UNCTAD: United Nations Conference on Trade and Development
UNEP: United Nations Environment Programme
UNESCO: United Nations Educational, Scientific and Cultural Organisation
UNFCCC: United Nations Framework Convention on Climate Change
UNFF: United Nations Forum on Forests
USD: United States Dollar
VPA: Voluntary Partnership Agreement
WCS: Wildlife Conservation Society
WRI: World Resources Institute
WTO: World Trade Organisation

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ANNEXE 4

**LIST OF FRENCH
FOREST AID
PROJECTS
2006-2011**

Primary forest, Danum
Valley, Borneo.

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agriculture, agrofood and forestry

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Contribution to multi-donor CBD fund	2006	Contribution to multi-donor CBD fund, proportional share for forest-related activities	Multi-country	MAEE	0.12	Multi-don.	CBD Secretariat ¹
Contribution to CIFOR	2006	Contribution to CIFOR	Multi-country	MAEE	0.21	Multi-don.	CIFOR
Contribution to ITTO	2006	Contribution to ITTO	Multi-country	MAEE	0.07	Multi-don.	ITTO
Contribution to UNEP	2006	Contribution to UNEP, proportional share for tropical forest-related activities	Multi-country	MAEE	0.69	Multi-don.	UNEP
Promotion of CDM forest projects	2006	Promotion to multilateral donors and target countries, creation of a methodology for "small scale" CDM pilot projects, leadership of a LULUCF expert group (Brazil seminar)	Multi-country	MAAPRAT	0.04	Donation	ONF International
Identification of an energy-wood project in China	2006	Identification of an energy-wood project in China. Drafting of project document	China	MAAPRAT	0.01	Donation	ONF International
Paper on PEFC	2006	Reporting workshop; publication of brochure	Congo Basin	MAAPRAT	0.01	Donation	ONF International
PARPAF2	2006-2011	Project for support for execution of forest management plans	CAR	AFD	5.00	Donation	CAR
TNS	2006-2010	Co-financing of the foundation for the management of the Sangha protected area. Protected areas and forest logging management planning.	CAR, Congo, Cameroon	AFD	3.00	Donation	TNS Foundation
Green Belt Movement	2006-	Forest plantations by women in the foothills of Mount Kenya, forest degradation avoided.	Kenya	AFD	1.30	Donation	Wangari Maathai
Foundation for Protected Areas	2006-	Capitalisation on the Foundation for Protected Areas	Madagascar	AFD	2.00	Donation	WWF, CI
Sierra Plan (forest management)	2006-	Forest degradation avoided	St Domingue	AFD	8.50	Loan	
Forest Environment Programme	2006	Debt Reduction/Development Contract targeting forest policy	Cameroon	AFD	10.00	C2D	AFD
RICAGIRN	2006-2008	Creation of a village hunting area	CAR	FGEF PPI	0.04	Donation	IUCN

¹ In cases similar to this it is considered that only a part of the total amount of the subsidy relates to activity linked to tropical forests.

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Association de Protection de la Faune du Centrafrique (APFC)	2006-2008	Conservation of headline large fauna in village hunting areas	CAR	FGEF PPI	0.05	Donation	IUCN
Help Congo	2006-2008	Environmental education in schools in Pointe Noire	Congo	FGEF PPI	0.03	Donation	IUCN
Conservation of Congo wildlife	2006-2008	Alternatives to hunting in the Conservation Area of the communities of Ibolo Koundoumou	Congo	FGEF PPI	0.04	Donation	IUCN
Tourism and nature centre	2006-2008	Ecomuseum for Upper Ogooué	Gabon	FGEF PPI	0.02	Donation	IUCN
Ibonga Phase 1	2006-2008	Education and tourist interpretation in the Gamba Complex of Protected Areas	Gabon	FGEF PPI	0.05	Donation	IUCN
Cadde	2006-2008	Sustainable, concerted conservation of the Akanda mangrove	Gabon	FGEF PPI	0.03	Donation	IUCN
Program	2006-2008	Development of community ecotourism in Doussala village	Gabon	FGEF PPI	0.05	Donation	IUCN
Tourism and nature centre	2006-2008	WWF-Terre Sauvage competition. Children of Green Gabon: environmental education	Gabon	FGEF PPI	0.02	Donation	IUCN
Amis du Pangolin	2006-2008	WWF-Terre Sauvage competition. Training of young people in the protection of natural resources and biodiversity	Gabon	FGEF PPI	0.01	Donation	IUCN
Mogheso	2006-2008	Community tourism in the Lopé national park	Gabon	FGEF PPI	0.03	Donation	IUCN
Edzingui	2006-2008	Ecotourism under pygmy management	Gabon	FGEF PPI	0.03	Donation	IUCN
Ibonga Phase 2	2006-2008	Raising environmental awareness in the Gamba Complex of Protected Areas	Gabon	FGEF PPI	0.03	Donation	IUCN
Mediterranean forests and sustainable development	2006-2008	Spatial planning and sustainable forest management in the Mediterranean	Mediterranean basin	MAEE	?	Donation	FAO
Biodiversity conservation in the Lomako reserve	2006-2010	Community management of the biodiversity of Lomako forest and periphery	DRC	FGEF	0.78	Donation	African Wildlife Foundation
Biodiversity conservation around Sapo National Park	2006-2010	Biodiversity conservation around Sapo National Park	Liberia	FGEF	0.83	Donation	Flora and fauna International

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Sud Expert Plantes	2006-2011	Training and exchange seminars between scientists, politicians and stakeholders; support for institutions and networks; research projects for competitive funding in 22 countries in West Africa, Central Africa, the Indian Ocean and Southeast Asia.	Multi-country	MAEE	?	Donation	IRD
Protection of Gola rainforest	2006-2011	Protection of Gola rainforest	Sierra Leone	FGEF	1.19	Donation	Royal Society for the Protection of Birds
CAWFHI	2006-2010	Wildlife protection in protected areas	CAR, Congo, Cameroon, Gabon	FGEF	2.50	Multi-don.	WCS, WWF
Floresta em pe	2006-2011	Sustainable management of forest resources in the Amazon (Para State)	Brazil	FGEF	1.40	Donation	IBAMA, GRET, ONF International, CIRAD
CEPF	2006-2011	Contribution to the Critical Ecosystem Partnership Fund. Global biodiversity fund focused on hotspots, co-financed by the World Bank, GEF, MacArthur, Japan and CI	Inter-State: notably Polynesia, Mediterranean, Caribbean, Madagascar and Indonesia	AFD	20.00	Multi-don.	CEPF
Contribution to CIFOR	2007	Contribution to CIFOR	Multi-country	MAEE	0.36	Multi-don.	CIFOR
Contribution to ITTO	2007	Contribution to ITTO	Multi-country	MAEE	0.22	Multi-don.	ITTO
Contribution to UNEP	2007	Contribution to UNEP, proportional share for tropical forest-related activities	Multi-country	MAEE	0.69	Multi-don.	UNEP
Energy biomass feasibility study	2007	Analysis of the feasibility of using maize straw as fuel in a biomass power station.	Argentina	MAAPRAT	0.20	Donation	ONF International
Capacity building	2007	Leadership of a LULUCF expert group for Latin America (regional seminar in Ecuador)	Latin America	MAAPRAT	0.01	Donation	ONF International

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Building a CDM methodology	2007	Presentation of an updated CDM methodology for the Climate Convention	Colombia	MAAPRAT	0.01	Donation	ONF International
Identification of a CDM forest project	2007	Drafting of PIN, assignment for two experts	China	MAAPRAT	0.01	Donation	ONF International
PAGEF	2007-2012	Project for the support of sustainable forest management, south-western Congo (forest management planning)	Congo	AFD	5.00	Donation	Congo
Capacity building in Tanzania	2007	Conferences and training programmes for government departments and universities	Tanzania	MAEE	0.01	Donation	ONF International
Contribution to GEF4	2007-2010	Contribution to GEF4; proportional share for forest projects	Multi-country	DGT	26.96	Multi-don.	GEF
CASCADE	2007-2012	Capacity building for forest CDM in Africa and Latin America	Benin, Cameroon, Mali, Madagascar, Mali, DRC, Senegal, Brazil, Argentina, Uruguay, Colombia	FGEF	2.30	Donation	UNEP
Development of the Uruguayan national system of protected areas	2007-2010	Development of the Uruguayan national system of protected areas	Uruguay	FGEF	1.00	Donation	Uruguay
Addo Elephant Park	2007-2010	Addo Elephant Park	South Africa	FGEF	0.98	Donation	South African National Parks
Support for management planning of small forest permits	2007-2012	SME forest management plans	Gabon	AFD	9.20	Loan	Gabon
Support for management planning of small forest permits	2007-2011	Protection of biodiversity in small forest concessions	Gabon	FGEF	2.00	Donation	Timber industry
PAF2C	2007-2012	Programme for the support of municipal forests. Biodiversity management planning and protection	Cameroon	FGEF	1.30	Donation	COFOR INT

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Biodiversity and sustainable forest management on the Guiana Plateau	2007-2010	Biodiversity and sustainable forest management on the Guiana Plateau	Guiana Plateau	FGEF	1.30	Donation	WWF
Contribution to CBD multi-donor fund	2008	Contribution to CBD multi-donor fund; proportional share for forest-related activities	Multi-country	MAEE	0.11	Multi-don.	CBD Secretariat
Contribution to CIFOR	2008	Contribution to CIFOR	Multi-country	MAEE	0.08	Multi-don.	CIFOR
Contribution to ITTO	2008	Contribution to ITTO	Multi-country	MAEE	0.08	Multi-don.	ITTO
Contribution to UNEP	2008	Contribution to UNEP; proportional share for activities tropical forest-related	Multi-country	MAEE	0.82	Multi-don.	UNEP
Sustainable management of natural resources for conservation in three biodiversity hotspots	2008-2010	Sustainable management of natural resources for conservation in three biodiversity hotspots	Madagascar	FGEF	2.00	Donation	CIRAD, WWF
Support for forest administration	2008-2010	Technical assistance for monitoring land use and the building of CDM and REDD projects	Cambodia	AFD	0.19	Technical assistance	ONF International
Ecotourism and biodiversity in Lao Cai Province	2008-2010	Development of ecotourism and biodiversity protection in Lao Cai Province	Vietnam	FGEF	0.89	Donation	Lao Cai Province People's Committee
Development of Limpopo National Park	2008-2012	Protected areas. Doubling of Kruger Park on the Mozambique side	Mozambique	AFD	11.00	Donation	Ministry of Tourism
Contribution to the World Bank Biocarbon	2008	Creation of REDD++ methodology (soil carbon)	Multi-country	AFD	1.00	Multi-don.	BioCF
Contribution to the Forest Carbon Partnership Facility (FCPF)	2008	Contribution to the global REDD+ precursor fund	Multi-country	AFD	4.00	Multi-don.	FCPF
Protection of gorillas in Deng Deng forest	2008-2010	Protection of gorillas in Deng Deng forest	Cameroon	AFD	0.75	Donation	WCS
Support for REDD+ in the countries of Central Africa	2008-2011	Support implemented by WWF, WCS and CI	Congo Basin	AFD	1.00	Donation	WWF

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Technical assistance for Indonesian forests	2008	Support for the Ministry of Forests	Indonesia	AFD	1.64	Technical assistance	Indonesia
Climate change budget support for Indonesia no. 1	2008	Climate change programme loan	Indonesia	AFD	21.43	Loan	Indonesia
Support for governance of natural resources and environment	2008	Forest component of environment programme	Ghana	AFD	5.00	Loan	Ghana
Support for definition of REDD strategy	2008	Facilitation of definition of R-PIN	CAR	MAEE	0.02	Donation	
Community reforestation and forest decentralisation	2008-2009	Setting up and implementing pilot municipal reforestation sites	Cameroon, Madagascar, Haiti, Cambodia	Decentralised (AIMF)	0.60	Donation	COFOR INT
Protected Area Foundation	2008-2012	Debt Reduction and Development Contract directed at capitalisation on the protected area foundation	Madagascar	AFD	13.60	C2D	AFD
Improvement of biodiversity conservation in the Tai area	2008-2013	Support for the management of Tai national park; support for the management of Goin-Débè and Cavally listed forests; raising awareness in local populations	Côte d'Ivoire	FGEF	0.04	Donation	Pro Natura
Contribution to the CBD multi-donor fund	2009	Contribution to the CBD multi-donor fund; proportional share for forest-related activities	Multi-country	MAEE	0.13	Multi-don.	CBD Secretariat
Contribution to CIFOR	2009	Contribution to CIFOR	Multi-country	MAEE	0.11	Multi-don.	CIFOR
Contribution to ITTO	2009	Contribution to ITTO	Multi-country	MAAPRAT	0.14	Multi-don.	ITTO
Contribution to UNEP	2009	Contribution to UNEP; proportional share for tropical forest-related activities	Multi-country	MAEE	0.82	Multi-don.	UNEP
Climate change budget support for Indonesia no. 2	2009	Climate change programme loan	Indonesia	AFD	21.43	Loan	Indonesia
Support for DRC REDD unit	2009-	Technical assistance for the development of REDD policy	DRC	AFD	0.03	Technical assistance	

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Technical support for energy-wood in the Amazon	2009-2010	Diagnostic analysis of energy-wood situation for the steelmaking sector in the Amazon	Brazil	AFD	0.60	Donation	CIRAD
Erudef	2009-2011	Community management and conservation of the great apes	Cameroon	FGEF PPI	0.04	Donation	IUCN
Rose	2009-2011	Support for sustainable management of community forest resources	Cameroon	FGEF PPI	0.04	Donation	IUCN
Brainforest	2009-2011	Enhancement of effective participation by communities in the management of Gabon's national parks	Gabon	FGEF PPI	0.04	Donation	IUCN
Figet	2009-2011	Moving ecotourism in the direction of sustainable biodiversity preservation	Gabon	FGEF PPI	0.03	Donation	IUCN
Domaine des Monts de la lune	2009-2011	Development of fair trade organic cocoa plantations using carbon credits	DRC	FGEF PPI	0.03	Donation	IUCN
Vona	2009-2011	Management planning for Sarambwe Reserve	DRC	FGEF PPI	0.02	Donation	IUCN
Design of a programme for forest/climate action	2009-2011	Feasibility studies	Brazil	AFD	0.80	Donation	FRM - ONF International
Technical assistance	2009-2011	Technical assistant assigned to IUCN Congo and DRC Environment Ministry, REDD+/climate policy	DRC	MAEE	0.30	Technical assistance	IUCN
Technical assistance for Ministry of Tourism on wildlife	2009-2011	Technical assistance for Ministry of Tourism on wildlife	Mozambique	AFD	0.80	Technical assistance	Ministry of Tourism
Gilé national nature reserve	2009-2012	Co-management of Gilé national nature reserve and development of peripheral areas, Zambezi Province	Mozambique	FGEF	1.00	Donation	Ministry of Tourism
FORAFAMA	2009-2012	Inclusion of REDD in forest management planning in the Congo Basin and the Amazon	Congo Basin, Brazil	FGEF	1.20	Donation	CIFOR
Cogeneration in Central African sawmills	2009-2012	Recycling sawmill wood waste in logging company cogeneration power plants	Congo Basin	FGEF	1.00	Donation	ATIBT
UGADEC	2009-2012	Community development and conservation of natural resources. Training of management staff in the conservation of natural resources and community reserves	DRC	FGEF	0.80	Donation	Conservation International

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Technical assistance for DRC forests	2009-2012	Forest advisor to the Minister	DRC	AFD	0.80	Technical assistance	Oreade Breche
Management of natural and land resources in Sahelian Africa	2009-2012	Management of natural and land resources in Sahelian Africa	Burkina Faso, Mali and Senegal	FGEF	0.75	Donation	GRET
Sustainable management of municipal forests in Benin	2009-2014	Supporting and developing participatory management of forest resources and municipal action in this domain.	Benin	FGEF	1.00	Donation	COFOR INT
Subsidy for the drafting of a report on the state of Congo Basin forests, 2010	2010	Subsidy for the drafting of a report on the state of Congo Basin forests, 2010	COMIFAC Member States	MAEE	0.02	Donation	CIRAD
Contribution to the CBD multi-donor fund	2010	Contribution to the CBD multi-donor fund; proportional share for forest-related activities	Multi-country	MAEE	0.14	Multi-don.	CBD Secretariat
Contribution to CIFOR	2010	Contribution to CIFOR	Multi-country	MAEE	0.26	Multi-don.	CIFOR
Contribution to ITTO	2010	Contribution to ITTO	Multi-country	MAAPRAT	0.10	Multi-don.	ITTO
Contribution to UNEP	2010	Contribution to UNEP; proportional share for activities tropical forest-related	Multi-country	MAEE	0.87	Multi-don.	UNEP
Support for secretariat of Silva Mediterranea committee	2010	Support for secretariat of Silva Mediterranea committee	Mediterranean basin	MAAPRAT	0.03	Donation	FAO
Strategy for the sustainable management of Mediterranean forests	2010	Preparatory workshop under the auspices of the Union for the Mediterranean	Mediterranean basin	MAAPRAT	0.01	Donation	AIFM
RedLAC	2010-	Support for the innovative financing of protected areas in South America	Latin America	FGEF	0.98	Multi-don.	
Frame agreement with IUCN	2010-	Technical assistance for the protection of protected areas in Central Africa	Congo Basin	AFD	0.80	Technical assistance	IUCN
Frame agreement with IUCN	2010-	Frame agreement with the IUCN protection of protected areas	Multi-country	AFD	1.50	Donation	IUCN

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Contribution to the Forest Carbon Partnership Facility (FCPF)	2010	Contribution to the global REDD+ precursor fund	Multi-country	AFD	4.00	Multi-don.	FCPF
Provision of satellite imagery in Central Africa	2010	Provision of data from Spot2, 4 and 5 satellites for Central African countries	Congo Basin	AFD	1.50	Donation	IGN/CNES/IRD
Support for REDD+ strategy in Laos	2010	Support for the preparation of the national REDD+ strategy	Laos	AFD	0.03	Donation	Laos
Support for REDD+ strategy in Ethiopia	2010	Support for the preparation of the national REDD+ strategy	Ethiopia	AFD	0.07	Donation	Ethiopia
Management of Assam forests	2010	Technical support for sustainable management of Assam forests	India	AFD	0.70	Donation	
Budget support for the management of Assam forests	2010	Support for the sustainable management of Assam forests	India	AFD	53.00	Loan	India
Climate change budget support for Indonesia no. 3	2010	Climate change programme loan	Indonesia	AFD	42.86	Loan	Indonesia
Climate change budget support for Mexico	2010	Support for the Mexican programme against global warming (ECCP)	Mexico	AFD	18.50	Loan	Mexico
Technical assistance for forests in Mexico	2010	Support for CONAFOR	Mexico	AFD	0.70	Technical assistance	AFD
Reforestation, biogas and conservation agriculture Yunnan province	2010	Improved management of tree planting, dissemination of digesters and promotion of conservation agriculture	China	AFD	35.00	Loan	China
Reforestation, biogas and conservation agriculture Yunnan province	2010	Development and pilot implementation of tools and methods suited to rural carbon promotion in China (reforestation, biogas, ecological agriculture), in particular in the rural provinces of Sichuan and Yunnan	China	FGEF	1.00	Donation	China

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Subsidy to the EU FLEGT facility	2010	Support for the work programme of the EFI FLEGT facility to assist in the negotiation of voluntary partnership agreements with the EU, particularly in support of Central African countries	Congo, Cameroon, CAR, Gabon, DRC	MAEE	0.05	Donation	EFI
Forest protection research fund	2010	Forest protection research fund	Gabon	AFD	1.00	C2D	AFD
AGEOS	2010-2013	Installation of a dish antenna for reception of satellite imagery to be used in monitoring the Congo Basin forests	Gabon	AFD	9.00	C2D	AFD, IRD, AGEOS
Technical assistance	2010-2011	Technical assistant assigned to the World Bank and FCPF to support the definition of REDD+ strategies	Multi-country	MAEE	0.30	Technical assistance	World Bank FCPF
Technical assistance	2010-2011	Technical assistant assigned to the FAO for drafting forest resource assessment reports	Multi-country	MAEE	0.30	Technical assistance	FAO, Forestry Department
Protection of mountain areas in Albania	2010-2012	Protection and sustainable management of mountain pastures in Albania and adjacent countries	Albania	FGEF	1.20	Donation	
AGEDUFOR phase 1	2010-2013	Support in preparing forest management plans in the Equateur, Bandundu and Orientale provinces. Strengthening of institutions, capacity-building in the private sector and promotion of R&D, training and technology transfers. Initial tranche.	DRC	AFD	5.00	Donation	FRM
Technical assistance	2010-2012	Two technical assistants assigned to COMIFAC for the implementation of the convergence plan and for FLEGT Voluntary Partnership Agreements	Congo Basin	AFD	1.35	Technical assistance	SE COMIFAC, CIRAD
Sustainable management of forests and biodiversity in Amapa State	2010-2013	Support for the management of the biodiversity corridor, adding value to environmental services through a REDD+ project in Amapa State	Brazil	FGEF	1.60	Donation	GRET
ECOFORAF	2010-2013	Support for eco-certification of logging concessions in Central Africa. Support for the promotion of systems of certification of timber products in relation to all stakeholders (institutions, producers, buyers, consumers)	Cameroon, Congo, Gabon, CAR, DRC	FGEF	1.50	Donation	ATIBT

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
Village agroforestry in Ghana	2010-2013	Village agroforestry plantations of rubber trees and carbon sequestration in Ghana	Ghana	AFD	14.00	Loan	Agricultural Development Bank
Chaambi Park	2010-2013	Contribution to the management plan for Chaambi Park. Participatory management planning, rural development activities, capacity building for Park managers	Tunisia	FGEF	0.90	Donation	Tunisian Environment Ministry
Quirimbas protected areas	2010-2014	Protected areas	Mozambique	AFD	4.00	C2D	Ministry of Tourism, AFD
Adaptation in Quirimbas National Park	2011-2015	Adaptation to climate change in Quirimbas National Park. Support for the maintenance of the integrity of the Park's natural resources for the benefit of the local population in the context of climate change.	Mozambique	FGEF	1.00	Donation	Ministry of Tourism
Contribution to the CBD multi-donor fund	2011	Contribution to the CBD multi-donor fund; proportional share for forest-related activities	Multi-country	MAEE	0.13	Multi-don.	CBD Secretariat
Contribution to UNEP	2011	Contribution to UNEP; proportional share for tropical forest-related activities	Multi-country	MAEE	0.87	Multi-don.	UNEP
Climate change budget support for Mexico	2011	Support for the Mexican programme against global warming (ECCP)	Mexico	AFD	30.00	Loan	Mexico
Second Mediterranean Forest Week	2011	International meeting of all partners involved in the sustainable management of Mediterranean forests	Mediterranean basin	MAAPRAT	0.02	Donation	EFMED, AIFM, COFOR INT
Subsidy no. 2 to the EU FLEGT facility	2011	Support for the work programme of the FLEGT facility under the management of the European Forest Institute	Congo, Cameroon, CAR, Gabon, DRC	MAEE	0.02	Multi-don.	EFI
Technical assistance for Cameroon forests	2011-2013	Forest advisor to the Minister; support for the Forest-Environment Sector Programme (PSFE)	Cameroon	AFD	0.38	Technical assistance	MINOF, CIRAD
Technical assistance	2011-2013	Technical assistant assigned to the UN-REDD programme in Nairobi to support the definition of REDD+ strategies in Congo Basin countries.	Congo Basin	MAEE	0.27	Technical assistance	UN-REDD (UNEP Nairobi)
Contribution to GEF5	2011-2014	Contribution to the Global Environment Fund programme on sustainable forest management and REDD+	Multi-country	DGT	30.00	Multi-don.	GEF

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (£million)	Type of support	Project promoter
Contribution to GEF5	2011-2014	Forest component of the general contribution to the Global Environment Fund	Multi-country	DGT	7.50	Multi-don.	GEF
Restoration of the eco-climatic conditions of Lake Rwevu	2011-2014	Restoration of the eco-climatic conditions of Lake Rwevu	Burundi	FGEF PPI	0.03	Donation	APRN
REDD+ technical platform for the Guiana Plateau	2011-2014	Implementation of a regional technical platform for dialogue between the States concerned, with the aim of strengthening the REDD+ capacity of their forest agencies.	Suriname, Guiana, Brazil (Amapa), Guiana	FGEF	1.00	Donation	ONF International
ACFAO	2011-2015	Forests and adaptation to climate change in West Africa (ACFAO). Support for the development of policies and projects for adaptation based on the ecosystems at different spatial levels (local, national and regional).	West Africa	FGEF	1.64	Donation	CIFOR
Technical assistance	2011	Provision of technical assistance to Gabon on climate	Gabon	AFD	0.50	Technical assistance	ONF International
Bureau de l'industrialisation et du Bois (BIB – Industrialisation and Timber Bureau)	2011	Support for BIB in planning for sustainable forest management on small to medium sized concessions	Gabon	AFD	1.50	C2D	TEREA, FRM
Amansuri	2011-2014	Conservation of the Amansuri estuary, mangrove and swamp forest	Ghana	FGEF PPI	0.04	Donation	Ghana Wildlife Society
Co-management and community conservation of biodiversity	2011-2014	Sustainability of mechanisms for co-management and community conservation of biodiversity in the Guatemalan system of protected areas	Guatemala	FGEF	1.50	Donation	FundaEco
DYNAFFOR	2011-2014	Structure and dynamic of the forests of Central Africa (DYNAFFOR). Research into logging rules that integrate the ecological functioning of tree populations and the variability of environmental conditions	Cameroon, Congo, Gabon, CAR, DRC	FGEF	2.54	Donation	CIRAD, ATIBT

Title of project	Calendar	Description of project	Beneficiary country	Aid manager	Amount (€ million)	Type of support	Project promoter
ACAD	2011-2015	Africa Carbon Asset Development (ACAD). Capacity building for African banks in investing in forest/carbon-related activities	Congo Basin, West Africa	FGEF	2.00	Donation	UNEP, Standard Bank
REDD+ and CDM in the Rio Magdalena basin	2011-2015	Adding value to the potential of REDD+ and CDM for the sustainable development of the Rio Grande de la Magdalena	Colombia	FGEF	1.46	Donation	Cormagdale, ONF Andina
REDD+ Mediterranean	2011-2015	Optimisation of the production of goods and services by the woodland ecosystems of the Mediterranean in the context of global change	Morocco, Tunisia, Algeria, Syria, Lebanon, Turkey	FGEF	2.64	Donation	Silva Mediterranea (FAO) and Plan bleu
Remote sensing capacity building in Africa	2011-2015	Capacity building and access to satellite data for monitoring the forests in Central and West Africa	Congo Basin and West Africa	FGEF	1.60	Donation	IRD
Remote sensing capacity building in Africa (phase 2)	2012-2015	Capacity building and access to satellite data for monitoring the forests in Central and West Africa	Congo Basin and West Africa	FGEF	1.75	Donation	IRD
Technical assistance	2011-2013	Technical assistance for DRC climate plan	DRC	AFD	0.30	Technical assistance	ONF International
Technical assistance	2011-2013	Technical assistance for Madagascar climate plan	Madagascar	AFD	0.30	Technical assistance	Helvetas / CIRAD
Provision of satellite imagery in Central Africa (phase 2)	2011-2013	Provision of data from Spot 2, 4 and 5 satellites for use by countries in Central Africa (second tranche)	Congo Basin	AFD	7.00	Donation	Astrium/GN/ CNES/IRD/ ONF International
Marsabit-Samburu	2011-2016	Preservation and development of the forest ecosystems of the Marsabit-Samburu landscape, Northern Kenya	Kenya	FGEF	1.50	Donation	AFD

Tropical Forests: taking stock and new challenges

WHAT GUIDANCE FOR FRENCH STAKEHOLDERS?

The third report by the National Group on Tropical Forests (French abbreviation: GNFT), of which this is a summary, aims to take stock of tropical forests issues among concerned French actors – Ministries and government agencies, the private sector, the scientific community and non-governmental organisations – in order to define new policy guidance to address current challenges, not only in France's overseas territories but also with partner countries, notably in the lead up to Rio+20.

Why should the protection of tropical forests be a matter of interest? First of all, taking into account French overseas départements and territories, approximately a third of French forests are tropical forests. Secondly, France imports substantial quantities of tropical timber and tropical forests provide global public goods such as climate stabilisation, biodiversity conservation, food security and public health. And lastly, tropical forests offer major potential for the development of the green economy, poverty reduction and the preservation of traditional livelihoods in partner countries of development aid.

Where does the protection of tropical forests stand today? Management planning and certification are making progress in the major tropical forest regions, although much remains to be done in terms of sustainable management. Deforestation, while decreasing since the 1990s and partially offset by reforestation, is still continuing at the rate of 13 million hectares a year according to the most recent report by the Food and Agriculture Organisation (FAO). In recent years, the Climate Convention has established a REDD+ mechanism to incentivise and help finance efforts to hold back deforestation. In 2010, the Paris Conference on the Major Forest Basins raised over USD4 billion to prime the pump for the mechanism. The Conference on Biological Diversity in Nagoya defined the Aichi Targets for 2020. The European Union has adopted the Timber Regulation to prevent imports of illegal timber and is negotiating partnership agreements with a dozen tropical forest countries.

What topics are examined in this new report? They are: (i) the model for management planning and certification of the sustainable management of tropical forests designated for timber production purposes, its successes and its limitations with regard to protection of biodiversity and benefits for local populations; (ii) the models for conservation and restoration of tropical forests designated for protection purposes; (iii) the sharp rise in worldwide demand for energy, food and mined resources against the backdrop of population expansion, economic growth and globalised trade; (iv) instruments for the promotion of legality and sustainability through international trade in tropical timber, as well as the situation of local timber markets and the demand from emerging countries; (v) investing in tropical forests and financing environmental externalities, with particular attention to the REDD+ mechanism and trust funds for protected areas; (vi) governance issues relating to forest areas, from the local level – the role of local governments, representation of indigenous and local communities – to the global level, focusing on the opportunities offered by Rio+20 to address the current fragmentation of the international governance on forest-related issues; (vii) priorities in the area of higher education and research and the growing role of remote sensing tools for protecting tropical forests.

