Forest Governance and Timber Trade Flows Within, to and from Eastern and Southern African Countries

Burundi Study

February 2014

Table of Contents

List of Tables

List of Figures

Abbreviations

Abbreviations in English		Equivalent in French	
AAN	Association of the Friends of Nature	Association des Amis de la Nature	AAN
ABEIE	Burundian Association for the Environmental Impact Assessments	Association Burundaise pour les Etudes d'Impacts Environnementaux	ABEIE
ABO	Burundian Association for the protection of Birds	Association Burundaise pour la protection des Oiseaux	ABO
ACP	African, Caribbean and Pacific	Pays d'Afrique, des Caraïbes et du Pacifique	ACP
ACVE	Greenbelt Action for the Environment	Action Ceinture Verte pour l'Environnement	ACVE
AfDB	African Development Bank	Banque Africaine de Développement	BAD
AFD	French Development Agency	Agence Française de Développement	AFD
AFF	African Forest Forum	Forum Forestier Africain	
AFLEG	African Forest Law Enforcement and Governance	Application des Réglementations Forestières et Gouvernance en Afrique	
APELUSI	Association for the Protection do the Environment and the Combat against AIDS	Association pour la Protection de l'Environnement et le LUtte contre le SIDA	APELUSI
ASYCUDA	Automated SYstem for CUstoms DAta	SYstème DOuaNIer Automatisé	SYDONIA
BIF	Burundi Franc	Franc Burundais	FBU
CARPE	Central African Regional Program for Environment	Programme Régional d'Afrique Centrale pour l'Environnement	
CBD	Convention on Biological Diversity	Convention sur la Diversité Biologique	CDB
CEFDHAC	Conference on the Rainforest Ecosystems of Central Africa	Conférence sur les Ecosystèmes des Forêts Denses et Humides d'Afrique Centrale	CEFDHAC
CIF	Cost, Insurance and Freight	Coût, Assurance, Fret	CAF
CIRAD	Centre of International Cooperation for Agricultural Research for Development	Centre de Coopération Internationale en Recherche Agronomique pour le Développement	CIRAD
CITES	Convention on International Trade of Endangered Species of Wild Fauna and Flora	Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction	CITES
COC	Chain of Custody	Chaîne de traçabilité	
COMESA	Common Market for Eastern and Southern Africa	Marché Commun de l'Afrique de l'Est et Australe	
COMIFAC	Central Africa Forests Commission	Commission des Forêts d'Afrique Centrale	COMIFAC
CPI	Corruption Perception Index	Indice de Perception de la Corruption	
CSO	Civil Society Organization	Organisation de la Société Civile	
DBH	Diameter at Breast Height	Diamètre à hauteur de poitrine	
DG	Director General	Directeur Général	DG
DGFE	General Directorate of Forestry and Environment	Direction Générale des Forêts et de l'Environnement	DGFE
DPAE	Provincial Direction of Agriculture and Livestock Rearing	Direction Provinciale de l'Agriculture et de l'Elevage	DPAE
DRC	Democratic Republic of Congo	République Démocratique du Congo	RDC
EAC	East African Community	Communauté de l'Afrique de l'Est	
EFI	European Forest Institute		
EPB	Operation of Bujumbura Harbour	Exploitation du Port de Bujumbura	EPB
ERA	Ecosystem Restoration Associates		
EU-27	European Union (27 member	Union Européenne	UE

Abbreviations in English		Equivalent in French	
	countries)		
EUEI - PDF	European Union Energy Initiative – Partnership Dialogue Facility	Initiative de l'Union Européenne pour l'Energie - Facilité de Dialogue de Partenariat	
FAO	Food and Agriculture Organization of the United Nations	Organisation des Nations Unies pour l'Alimentation et l'Agriculture	FAO
FDMR	Federation for the Development of Rural Areas	Fédération pour le Développement du Monde Rural	FDMR
FFEM	French Global Environment Fund	Fonds Français pour l'Environnement Mondial	FFEM
FLEGT	Forest Law Enforcement, Governance and Trade	Application des Réglementations Forestières, Gouvernance and Echanges commerciaux	FLEGT
FOADI	Forum of the Actors Working for an Integrated Development	Forum des Acteurs Oeuvrant pour le Développement Intégré	FOADI
FOB	Free On Board	Franco A Bord	FAB
FOSA	Forestry Outlook Study for Africa	Etude Prospective du Secteur Forestier en Afrique	
FRA	global Forest Resources Assessment	Evaluation des Ressources Forestières Mondiales	
FSC	Forest Stewardship Council		
GEF	Global Environment Facility	Fonds pour l'Environnement Mondial	FEM
GGF	Forest Management Group	Groupement de Gestion Forestière	GGF
GIS	Geographical Information System	Système d'Information Géographique	SIG
GDP	Gross Domestic Product	Produit Intérieur Brut	PIB
GNP	Gross National Product	Produit National Brut	PNB
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	Coopération Internationale Allemande	
HS	Harmonised System	Système Harmonisé	
IED	Innovation Energy Development	Innovation Energie Développement	IED
IFDC	International Center for Soil Fertility & agricultural Development	Centre International pour la Fertilité des sols et le Développement agricole	
IGEBU	Geographical Institute of Burundi	Institut Géographique du Burundi	IGEBU
INECN	National Institute for Environment and Nature Conservation	Institut National pour l'Environnement et la Conservation de la Nature	INECN
ISTEEBU	Institute of Statistics and Economic Studies of Burundi	Institut des Statistiques et d'Etudes Economiques du Burundi	ISTEEBU
IUCN	International Union for Conservation of Nature	Union Internationale pour la Conservation de la Nature	UICN
LLS	Landscape and Livelihood Strategy		
LVS	Legality Verification System	Système de Vérification de la Légalité	SVL
MAI	Mean Annual Increment (m3 /ha/year)	Accroissement Annuel Moyen	AAM
MDF	Medium Density Fiberboard	Panneau de Fibres Moyenne Densité	MDF
MDG	Millennium Development Goals	Objectifs de Développement pour le Millénaire	OMD
MEEATU	Ministry of Water, Environment, Lands and Urban Planning	Ministère de l'Eau, de l'Environnement, de l'Aménagement du Territoire et de l'Urbanisme	MEEATU
MEM	Ministry of Energy and Mines	Ministère de l'Energie et des Mines	MEM
MINAGRIE	Ministry of Agriculture and Animal Resources	Ministère de l'Agriculture et de l'Elevage	MINAGRIE
NFP	National Forest Programme Facility	Programmes Forestiers Nationaux (Mécanisme)	PFN

Abbreviations in English		Equivalent in French	
NGO	Non-Governmental Organization	Organisation Non Gouvernementale	ONG
OBR	Burundi Revenue Authority	Office Burundais des Recettes	OBR
ODEB	Organization for the Defense of Environment in Burundi	Organisation pour la Défense de l'Environnement au Burundi	ODEB
OECD	Organization for Economic Cooperation and Development	Organisation de Coopération et de Développement Economiques	OCDE
OFAC	Observatory for the Forests of Central Africa	Observatoire des Forêts d'Afrique Centrale	OFAC
OPJ	Judicial Police Officer	Officier de Police Judiciaire	OPJ
OSBP	One Stop Border Post	Poste Frontalier Unique	
OTB	Tea Office of Burundi	Office du Thé du Burundi	OTB
pa	per annum	par an	
PAB	Protected Areas Biodiversity project	Projet pour la Biodiversité des Aires Protégées	
PABV	Project of Watershed Management	Projet d'Aménagement des Bassins Versants	PABV
PAFC	Forest Management Plan of Commune	Plan d'Aménagement Forestier Communal	PAFC
PAFE	Airport, Border and Foreigner Police	Police de l'Air, des Frontières et des Etrangers	PAFE
PAPACO	Programme Protected Areas of Central and West Africa	Programme Aires Protégées d'Afrique du Centre et de l'Ouest	PAPACO
PFBC	Partnership of the Forests of the Congo Basin	Partenariat des Forêts du Bassin du Congo	PFBC
PPCDR	Post-Conflict Programme of Rural Development	Programme Post Conflit de Développement Rural	PPCDR
PRADECS	Support Project to the Community and Social Development	Projet d'Appui au Développement Communautaire et Social	PRADECS
REDD	Reduced Emissions from Deforestation and forest Degradation	Réduction des Emissions de la Déforestation et de la Dégradation des forêts	REDD
R-PP	Readiness Preparation Proposal		
RWE	Round Wood Equivalent	Equivalent Bois Rond (volume)	EBR
SADC	South Africa Development Cooperation		
SCC	Swedish Cooperative Centre		
SEW	Sustainable Energy production through Woodlots and agroforestry (IFDC project)	Production d'Energie Durable par les parcelles de Boisement et l'agroforesterie	SEW
SIDA	Swedish International Development Agency	Agence Suédoise Internationale pour le Développement	
SGAPF	Service Management of Forest Resources	Service de Gestion et d'Aménagement du Patrimoine Forestier	SGAPF
sp	Species	Espèce	*sp*
SPEAP		Synergie du Peuple pour l'Encadrement Agro-Pastoral et la lutte contre la pauvreté	SPEAP
UN	United Nations	Nations Unies	
UNCTAD	United Nations Conference on Trade and Development	Conférence des Nations Unies sur le Commerce et le Développement	CNUCED
UNDP	United Nations Development Program	Programme des Nations Unies pour le Développement	PNUD
UNESCO	United Nations Educational, Scientific and Cultural Organisation	Organisation des Nations Unies pour l'Education, la Science et la Culture	UNESCO
UNFCCC	United Nations Framework	Convention Cadre des Nations Unies	CCNUCC

Abbreviations in English		Equivalent in French	
	Convention on Climate Change	sur les Changements Climatiques	
USAID	United States Agency of International Development		
VAT	Value Added Tax	Taxe sur la Valeur Ajoutée	TVA
VPA	Voluntary Partnership Agreement	Accord de Partenariat Volontaire	APV
WCS	Wildlife Conservation Society		
WTO	World Trade Organization	Organisation Mondiale du Commerce	OMC
WWF	World Wide Fund for Nature		
Various acronyms in French:			
		Fonds de Partenariat pour le Carbone Forestier	FPCF
		Officier de Police Judiciaire	OPJ
Old acronyms (occasionally encountered):			
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit	Coopération Technique Allemande	
		Ministère de l'Aménagement du Territoire, de l'Environnement et du Tourisme	MINATE
		Ministère de l'Environnement, de l'Aménagement du Territoire et des Travaux Publics	MINEATTP

Background

This study of timber flows within, to and from Burundi has been prepared as a part of a wider study that covered nine countries in Eastern and Southern Africa, with an identical objective in each to these countries that consisted of two main parts:

1. To provide a baseline of the wood based trade flow information
2. To provide an overview and analysis of the regulatory framework for timber production, processing and trade.

The study is quite timely considering that widespread illegal logging in recent years has had a devastating effect on the valuable forest resources in the countries in this part of Africa, which has had not only environmental consequences but also economic and social ones. The response by the European Commission has been the introduction of FLEGT, the Forest Law Enforcement, Governance and Trade Action Plan, to provide a set of measures to prevent illegally harvested timber from reaching the European markets. With the European Union Timber Regulation, EUTR, the placing of illegal timber on the European market has been prohibited starting from 3 March 2013.

Against this background, it becomes important to understand the dynamics of the timber trade flows not only in Burundi but also in Eastern and Southern Africa, including the volume and value of the trade, within, to and from these countries, and the potential interest that individual countries might have in improving forest management and entering into VPAs. This study has therefore identified many burning issues that need to be addressed to prevent illegal logging and trade in illegally harvested products, in Burundi as well as in the other countries of the study.

The study has produced nine comprehensive country reports, each of 50-60 pages, covering Burundi, Kenya, Madagascar, Mozambique, Rwanda, South Africa, Tanzania, Uganda and Zambia, in addition to one Summary Report. This particular country report, on Burundi, was prepared by Nicolas Blondel.

Executive Summary

Burundi has a total land area of 2.8 million ha. The county is forested at about 10%, consisting of 45,000 ha of natural forests, 35,000 ha of woodlands and as much as 170, 000 of forest plantations.

Most of the natural forests and woodlands are protected areas and not open to wood production. The bulk of forest resources that can be harvested are in the plantations. The recent history of the country has been marked by a period of unrest during which time the forest resources were seriously affected as the framework of forest governance and management collapsed. Outside protected areas, in spite of the serious land scarcity in Burundi and competition between forestry and agriculture, trees are very present in the landscape in most areas. The plantations were mainly established during the 1980s with support of international donors.

Exports of all wood-based products, including paper products, by Burundi are close to zero with less than 1,000 m3 RWE per year. Without any domestic pulp and paper production, Burundi imports its paper products, with minor amounts (less than 1000 m3 RWE in 2011) which are re-exported. There are no recorded exports of fuelwood products. Exports of Burundi to EU-27 of all wood-based products are nil. The national demand of sawn wood is mainly met by softwood produced in plantations, the main species being Grevillea robusta, and eucalyptus

Burundi's imports of wood based products have increased since 2000, having reached a level of around 25,000 m3 RWE per year. Out of this volume, paper imports represent about 80%. As regards timber products imported, these are all processed as Burundi does not seem to import logs and sawn wood.

There are no particular provisions on exports in the forest legislation, apart from one Ministerial Order of 2010 banning the export of sawn pine and Callitris wood, which tends to be enforced. Among the documents required to export wood based products from Burundi is an export license issued by the National Bank of Burundi.

The Ministry of Water, Environment, Land Use Planning and Urbanism is responsible for the management of forests and forest plantations. Within that ministry, natural forests in protected areas are managed for conservation objectives by the National Institute for Environment and Nature Conservation. Woodlands outside of protected areas are the responsibility of the Department of Forests, which belongs to the General Direction of Forestry and Environment within the same ministry.

The Forest Policy dates back to 1984 and it is outdated. A draft for a new National Forest Policy (2012-2025) has been prepared recently. This policy, which is expected to be approved in 2013, is aiming at rehabilitation of the depleted forest resources, encourage decentralization, privatization and increased participation of civil society. Fairly comprehensive forest legislation exists, with the Forest Law being from 1985, but its application is a major problem. A proposed a new forest law has been prepared in 2012 which puts emphasis on the involvement of local communities in forest management.

Harvesting in state woodland requires a cutting permit, stipulating a specific number of standing trees, issued by the General Direction of Forestry and Environment. Cutting permits are issued to individuals or offered at auctions. Following a Ministerial Order of 2009, some of the state woodlands are under participative management, as a pilot operation. For private woodlands the owner has to prepare and submit a management plan together with a logging plan, detailed in another Ministerial Order of 2000. For the actual harvesting, a cutting permit still applies. To transport wood products after felling requires an authorization to transport, which is issued to the logger or wood trader by General Direction of Forestry and Environment. The police force plays an important role in the control of the transport of wood.

Transparency in forest sector is not well developed but this seems to result more from a lack of capacity than from an intention not to provide information. The web sites of the forest institutions do not publish regulations in a systematic and comprehensive way and many sections of these sites are empty or not functioning.

There are currently no certified forestry operations in Burundi. Understandably, no national standards have been developed.

About 95% of rural households use firewood and 80% of the urban population use charcoal for cooking, meaning that 95% of the energy needs are in the form of fuelwood.

With almost all natural forests and woodlands being set aside as protected areas for conservation, most wood based products are coming from plantations. The supply and demand situations for wood based products are not in balance, as it is more and more difficult for operators to find raw material especially certain qualities and sizes. This shortage might lead to overharvesting and increased imports. Smaller amounts of sawn indigenous hardwood and charcoal are imported illegally from Tanzania to the eastern provinces of Burundi, coming from miombo woodland species. Burundi is receiving limited amounts of sawn hardwoods from D.R. Congo, mostly illegal.

What happens in D.R. Congo as regards forest resources is of great concern to all the countries in the Great Lakes region.

The forest industry is not well developed with all harvesting operations as well as processing are being done by hand using manual labour. There are no sawmills in operation. Some entrepreneurs involved in the first processing of timber in the woodlands use chainsaws for sawing the wood into planks, which is quite wasteful.

With the on-going growth of the economy as well as the population, imports of wood based products can be expected to increase, with exports not likely to grow significantly. There is limited scope for an expansion of forest plantations as there is scarcity of available land. With the on-going reforms forest governance is expected to improve together with forest management and private investment in forestry.

1. Introduction

Burundi has a total area of 2.8 million ha and an estimated population of approximately 8.4 million people (FAOSTAT 2011), which makes it one of the most densely populated countries in Africa. This land-locked highland country occupies a position at the junction between Central Africa and East Africa.

Forestry is usually estimated to contribute around 2 or 3% to the GDP (NDUWAMUNGU, 2011; NDONSE, 2012). However, the recent study by ODEB (2012) by taking into account the informal forest economy evaluates that this contribution is significantly higher (it could reach 12% according to this source). Forestry provides only a negligible proportion (less than 1%) of all exports by value.

The recent history of Burundi has been marked by a period of unrest and internal conflicts associated to a long political crisis from 1993 to 2003. During that time, the forest resources were seriously affected as the framework of forest governance and management collapsed. Since then the country has been in a post-conflict phase of gradual recovery, reconstruction and reorganization but governmental services are still weak and often function in a defective way.

The information presented in this country study has been gathered from July to September 2012 during a desk-based study followed by a fact-finding mission to Burundi, as described in ***Annex 1***.

2. Forest Sector

Various figures are found in the literature regarding the forest cover of the country, they can vary by a factor of two according to the sources and it is difficult to know which the reliable ones are. This is due to a combination of factors: (i) no systematic mapping of these resources has been done; (ii) most statistics on forest plantations are based on an addition of records of areas planted by afforestation programmes; (iii) extensive losses were incurred in both natural forests and forest plantations during the period of civil war and political crisis between 1993 and 2003, but these losses have not been really measured and (iv) the scattered small woodlots and trees are an important resource but not easy to evaluate. A tentative and provisional breakdown of forest types is presented in **Table 1**.

Table 1 Approximate areas of forest resources (natural forests and plantations) by forest type and protection / management status.

Type of forest or woodland	In protected areas for conservation (ha)	Other forest resources, for sustainable production (ha)	Total forest resources (ha)	Proportion
Total montane rainforest	**maximum 45,000**		**45,000**	**18%**
Kibira National Park [40,000 ha]*	maximum 40,000			
Monge forest Reserve [5,000 ha]*	1,500			
Bururi forest Reserve [3,300 ha]*	maximum 3,300			
Mpotsa forest Reserve [200 ha]*	maximum 200			
Total woodlands (indigenous species) [**]	**maximum 25,000**	**10,000**	**35,000**	**14%**
Rusizi National Park [11,000 ha]*	maximum 3,000			
Kigwena forest Reserve [500 ha]*	maximum 500			
Rumonge forest Reserve [600 ha]*	maximum 600			
Vyanda forest Reserve [3,900 ha]*	maximum 3,900			
Ruvubu National Park [50,800 ha]*	5,000 ?			
Fragments of natural woodlands in other protected areas	12,000 ?			
Very small fragments of natural woodlands outside reserves [***]		10,000 ?		
Total plantations	**-**	**171,000**	**171,000**	**68%**
State plantations	-	93,000 [min. 50,000 max. 100,000]****	93,000	37%
Plantations of Communes	-	13, 000 [min. 7,000 max. 19,000]****	13, 000	5%
Private plantations (exclusive of very small woodlots & trees on farms)	-	65, 000 [min. 15,000 max. 65,000]****	65, 000	26%
Total forest resources	**maximum 70,000 (3%)**	**181,000 (7%)**	**251,000 (10%)**	**100%**
Total land area Burundi			2,568,000 (100%)	

Notes on Table 1:

These figures are an approximation of the current situation.

* The figures indicated in the first column of the table are the INECN estimate of the total area of each protected area. The figures in the second column are meant to represent the current area of forest ecosystems remaining within these protected areas after the

losses incurred during the civil war and its aftermath (or the area of forest ecosystems beside other ecosystems composing the protected area).

** Including some gallery forest.

*** Source: BARNAUD & NSHIMIRIMANA (2006).

**** For each type of plantations, the smallest (min.) and largest (max.) figure found in the recent literature is indicated below what is thought to be the best estimate. The main sources of these figures are NDONSE (2012), NDUWAMUNGU (2011), ODEB (2012), BARARWANDIKA & NINDORERA (2008). Most of these figures, especially for the State plantations, come from an addition of areas reported to have been planted by the various afforestation programmes since colonial times, to which a certain proportion estimated to have been lost during the civil war is deducted.

Scattered agro-forestry trees ("trees on farms") and the smallest woodlots are not included in the table, although they represent a significant forest resource for the country (equivalent to 180,000 ha according to NDONSE (2012), although it is not indicated how this is calculated).

As it can be seen in **Table 1**, most natural forests and natural woodlands of the country are protected areas (national parks or forest nature reserves) and not dedicated to wood production. The bulk of forest resources that can be harvested are forest plantations.

The country is crossed by a north-south ridge, the Congo-Nile divide, the western slopes of which go down to the banks of lake Tanganyika at 800 m above sea level or the banks of the Rusizi river further north (see maps of the country of **Figure 3** and **4** in ***Annex 3***). The eastern slopes of the ridge go down gradually across a hilly plateau in the centre of the country up to a depression along the border with Tanzania in the east or north-east of the country at about 1100 m above sea level. The main types and blocks of natural forests and natural woodlands remaining today are the following:

- Equatorial montane rainforest is found on the ridge, where rainfall is highest, up to an altitude of 2600 m above sea level. Some bamboo forest is present (altitudinal life zone). The main block is Kibira National Park (40,000 ha), almost entirely made of montane forest ecosystems. It is contiguous of Nyungwe National Park in Rwanda. Other areas of montane forest are isolated fragments further south along the ridge: Monge Forest Nature Reserve (1,500 ha left), Bururi Forest Nature Reserve (3,300 ha) and Mpotsa Forest Nature Reserve (200 ha).
- The isolated fragment of Kigwena Forest Nature Reserve (500 ha) is mesophilous peri-guinean forest ("forêt mésophile périguinéenne").
- The isolated fragments of Rumonge Forest Nature Reserve (600 ha) and Vyanda Forest Nature Reserve (3,900 ha) in the lower parts of the country, on the foothills and plains along lake Tanganyika, are *Brachystegia* woodland ("forêt sèche"). Their aspect is a bit similar to the miombo woodlands of eastern and southern Africa. This type of woody vegetation, more or less closed, is also present, to an unknown extent, in other classes of protected areas mainly covered by savanna, namely the Protected Landscapes (Makamba, total area 7,229 ha; Gisagara, total area 6,126 ha; Bugesera, total area 16,010 ha which includes the natural woodland of Murehe that used to cover 5,000 ha) and the Natural Monuments (Nyakazu gorge, total area 600 ha; Karera falls, total area 142 ha) (UICN, 2011). The likely existence of dry woody vegetation in the third national park of the country, Ruvubu, which is a savanna park (total area 50,800 ha) is not well documented. A few small patches of the *Brachystegia* woodlands still exist here and there outside reserves, unprotected and receding.
- The natural vegetation of one of the two sectors of Risizi National Park, occupying flat clayey soils, is a closed palm woodland of *Hyphaene benguellensis ssp ventricosa* (synonymous *H. petersiana*) (ivory nut palm), a subspecies endemic to this site (1,200 ha left according to recent rough evaluations). This protected area is often colloquially called "Rukoko reserve", in reference to the local name umukoko of this palm tree. Threats against this species remain high so that the stands are open or encroached in many places.
- Some gallery forest is found in valleys of Ruvubu national park and other protected areas (Gisagara, Karera falls).

Outside protected areas, in spite of the serious land scarcity in Burundi and competition between forestry and agriculture, trees are very present in the landscape in most areas (exceptions: certain areas near Bujumbura on the western slopes of the main ridge e.g., Province Bujumbura Rural). As regards exotic plantations, many of the large areas of forest plantations were established between 1978 and 1992 with the support of international donors such as the World Bank, European Development Fund, Belgium, Saudi Arabia, France, AfDB, etc. (this was for wood production but also for watershed protection). Afforestation efforts were practically halted during the troubled period between 1993 and 2003 and have restarted little by little (NDONSE, 2012; NDUWAMUNGU, 2011). Furthermore, very small woodlots and scattered trees on farms are two significant contributions to the woody resources and agro-forestry is a very common land use practice. Given the high demand in forest products and the competition with agriculture, agroforestry is the response developed to maximize production on fragmented farming land.

As to the land tenure aspects, outside protected areas there are 3 main **types of forest ownership**:

(a) State woodlands (plantations) ("boisements domaniaux"): large plantations established by government afforestation projects. Many of these woodlands are normally mature but their modalities of management are being defined and tested;

(b) Woodlands (plantations) of "Communes" (local government plantations) and plantations of public institutions (forest research stations e.g.): usually of a smaller size than the State plantations (medium-sized). Most of these woodlands originate from a transfer of the State plantations of less than 10 ha to the Communes that was decided in 1989 by the Government;

(c) Private woodlands (plantations): individual plantations, plantations of private institutions (churches, schools, etc.), forest plantations of tea factories. It is clear that these woodlands, woodlots and agro-forestry plantations are very scattered and small so that their real census is difficult. They currently supply most of the needs for wood in the country.

Type (a) and (b) are also called public plantations and their management regimes are more or less similar. The tiny patches of natural woodlands that remain in a few places outside reserves do not have a clear ownership and management status: they should be related to (b).

As regards the **main commercial species**, surprisingly Kibira forest and the few forest nature reserves of the Congo-Nile ridge still contain some valuable timber species, in particular *Entandrophragma excelsum* (afromontane mahogany, local name umuyove) but these trees remain very threatened. Pressure on the palm tree of Rusizi National Park, which is more and more used for fences, poles and carpentry (door frames e.g.), will increase if its protection is not intensified. The main commercial species of the tree plantations are:

- Eucalyptus species: by far the most important group of species (*E. grandis, camaldulensis, maidenii*, *saligna, mycrocorys,* etc.), mainly for fuelwood, very secondarily for sawn timber;
- *Grevillea robusta*: mainly for sawn timber, also for firewood;
- Pine species: mainly for sawn timber (*P. patula, caribea, kesiya, elliottii*);
- Cypress: for sawn timber (*Cupressus lusitanica, etc.*);
- *Callitris sp*: especially to restore rocky soils of bad quality: for sawn timber in theory but does not reach big dimensions (*C. robusta* and *C. calcarata*).

[The proportion of species in public plantations was eucalyptus 36%, *Callitris* 30%, pine 15%, cypress 4%, *Grevillea* 3%, other 12% when they were established (NDUWAMUNGU, 2011). The proportion of *Grevillea* is much higher and *Callitris* much smaller in private plantations].

Deforestation and condition of forest resources

A national forest inventory was carried out only in 1976, so that no detailed and up to date picture of the forest resources exists. During the troubled period of 1993-2003, the forest resources suffered heavy losses due to forest clearing, encroachment (agriculture, (re)settlements, etc.), excessive harvesting, uncontrolled wildfires NDONSE, in his 2012 study, estimates that the area of forests and plantations was reduced by roughly 30% during that period. This corresponds to a destruction of about 35,000 ha of natural forests and woodlands, and up to 50,000 ha of public plantations. Other sources mention that the loss in forest resources between 1990 and 2000 may have reached 40 % or more.

During the post-conflict period since 2003, deforestation has been progressively reduced at the same time as security was little by little improved and a normal authority of the State was gradually restored. During the troubled period until recently, a typical mechanism was the granting and transfer of wooded land belonging to the State by administrative authorities: this practise has been subdued little by little. If typical deforestation has now reached slow rates (no detailed figures available), it is not stopped altogether. The main threats still active across the country are clearing for agriculture, illegal logging, mining (in particular, in a context of reconstruction, anarchic excavation to extract building materials is a problem affecting all land uses), bushfires (in the eastern provinces they are a serious constraint for tree plantations; in the rest of the country eucalyptus plantations damaged or destroyed by fire are not commonplace but can be observed in some places; fires are of two types: (i) unintentional spreading of miscellaneous fires and (ii) arson fires lit by herders who dislike forestry plantations). One triggering cause of these problems which has been very active and still exists to some degree is irregular authorizations given and irregular activities organized by some authorities (some Commune authorities, some security forces). The current situation in the different types of forests is as follows (see also paragraph 10.2. on the main types of illegal logging cases):

Forest protected areas

Although the situation has been improving year by year in a tangible way, these threats are not even under control in protected areas. Kibira national park has been until recently a redoubt for irregular armed groups but in 2012 security seems to have been restored in the area. New forest clearings in the park for agricultural or settlement purposes seem to have become rare. Cultivation of land inside the park (clearings of past years) is still a real problem. Logging of timber, especially mahogany, and charcoal making have been considerably reduced recently but are still taking place surreptitiously in some sectors where the park staff cannot be present. Current damages to the park caused by a lack of cooperation of other institutions are reported by environmental organizations. The main one is the recent opening of a water canal across the forest of the park without following normal procedures (environmental impact assessment, etc.) and without taking any measure to mitigate the impacts. Bad collaboration of a surrounding tea estate is also reported (clearing of an adjacent gallery forest to create pasture for the livestock of the staff e.g.). Another issue is indiscriminate firewood collection by the army. A very concerning situation is described in Rusizi National Park by INECN, ACVE and UICN (2011). The control over threats in the scattered forest nature reserves of the country tends to be a bit smaller than in Kibira National Park. **Table 8** in ***Annex 6*** is a synthesis of the current threats in the forest protected areas of Burundi.

More detailed assessments can be found in UICN (2011), KISIOH (2012), MBONERANE (2011), NZIGIDAHERA (2012) and BARNAUD & NSHIMIRIMANA (2006).

Forest open areas (plantations)

The various sources consulted indicate that the various threats (clearing, illegal logging, fire) have been affecting by order of importance the woodlands of Communes (as a consequence few are left), then the State woodlands and to a smaller degree the private plantations (see details in paragraph 10.2).

A few years ago (about 2009-2011) a sudden rush was observed towards pine plantations to produce sawn wood. Orders placed in Tanzania and Uganda have caused indiscriminate and illegal harvesting of pine plantations in Burundi. The State woodlands of pine were affected by illegal cuttings and most if not all private woodlots of pine have been wiped out these last years. For that reason, logging and export of pine wood has been forbidden in 2010 (NDONSE, 2012) but this type of woodlands remains threatened.

After intense actions to promote forestry until 1993 (afforestation, institutional support, etc.), international cooperation programmes in forestry were stopped during the 1993-2003 period and since then few have been launched. Really managed woodlands are an exception. Due to lack of maintenance and tending of woodlands, and due to overharvesting, the productivity has declined. The poor condition of the forest /rural roads is another problem. Problems of land tenure uncertainties are besides reported to affect the forestry sector to a significant degree.

In fact, if eucalyptus trees were not coppiced, forest resources of Burundi would not be what they are (resilience to severe pressure: easy and automatic regeneration is an essential asset). The same can be said about *Callitris* plantations (although the growth of that species is very slow): immediate and abundant natural regeneration. The genetic quality of existing stands is also better than in Rwanda, on average.

Current afforestation or reforestation efforts

Recent and current afforestation or reforestation achievements are difficult to evaluate because (i) most available figures concern numbers of seedlings produced (some are objectives while others are real production); the losses at nursery, plantation and post-plantation stages are unknown), (ii) part of these figures concern fruit trees (up to 1/3 of the production) and (iii) some of the plantations are woodlots while some are agro-forestry plantations of scattered trees. NDUWAMUNGU (2011) mentions that from 1990 to 2010 less than 10,000 ha of woodlands and woodlots may have been effectively planted, most of it recently. On the other hand, according to the Department of Forests, the total production of seedlings in Burundi has been around 20 million seedlings per year during 2000-2005 and 40 million seedlings per year during 2006-2010. Assuming that two thirds are forestry species and that 50% of that seedling production has been effectively planted and has survived, this would represent an equivalent of dense (re)plantations (3m x 3m) of 6000 ha/year and 12,000 ha/year respectively for the two periods. In order to complement this assessment of the recent plantation efforts, here are figures from the main recent or on-going programmes:

- Program PABV (AfDB funding): 500 ha/year (equivalent dense plantation) planted from 2006 to 2011 (NDONSE, 2012);
- National Reforestation Program (funding from the Burundi State): 2,500 ha/year (equivalent dense plantation) from 2010 to 2012. There is a strong commitment from the State since 2009 even if the funds are sometimes difficult to release;
- Project SEW of IFDC (funding from the Netherlands and the United Kingdom): 1,200 ha/year from 2009 to 2012, only for woodlots (dense plantations). Agro-forestry plantations are additional figures;
- Program PPCDR (funding from the European Union): agro-forestry plantations equivalent to 2,400 ha/year of dense plantations from 2010 to 2013 (3 years), assuming a plantation and survival rate of 75% of the nursery production.

It is regularly assumed that there is practically no area remaining for forest plantation expansion in Burundi. However, the recent experience of neighbouring Rwanda, where similar assumptions were made a few years ago, shows that bare land remaining available for afforestation (woodlands and woodlots) can be underestimated. Admittedly, afforestation of large blocks will cease to be possible in the near future but scattered new plantations (small woodlands, woodlots, clumps, line of trees, scattered trees) will remain a substantial option. At the same time, reforestation and intensification of the management on wooded lands will gain importance. If competition with agriculture and settlements, pressure on the resource and some unfavourable aspects of forest taxation are a reality, two major incentives to tree plantations have been practiced by the government and supporting projects, namely the free distribution of the seedlings (it has been the general "policy" for a long time) and initial woodlot establishment support (approach of some projects). This form of subsidy to private forestry, together with recent restrictions of deforestation, allows maintaining a real interest in tree planting among the population.

Conclusion on the forest resources

Overall, it is apparent that the forest resources are still in bad condition and remain threatened with depletion. The general trend is an improvement of their fate, although the progress is fragile: the risk of a chaotic situation and renewed degradation cannot be ruled out if a relapse to political instability occurs.

Few comprehensive sectoral studies seem to have been conducted on forestry and the wood value chain, compared to other countries of the region. The main available studies are NDONSE (2012), carried out in the framework of the FAO ACP-FLEGT Support Programme, NDUWAMUNGU (2011) and ODEB (2012).

3. CITES

Burundi has signed the CITES convention. The requirements of this are transposed in the national law 1/17 of 10 September 2011 on the trade of wild fauna and flora. No trees of Burundi are in Annex I or Annex III, Prunus africana is in Annex II (species present in montane forest that could produce timber but is mostly threatened by the harvest of its bark). A similar case concerns Osyris lanceolata, African Sandalwood, proposed by Tanzania and Kenya for inclusion in 2013 in Annex II (CITES, 2012). This small indigenous tree of dry woodlands and savannas is currently very threatened in Burundi (intense traffic especially from Murehe Reserve to Uganda and Kenya with trucks full of wood regularly arrested by INECN) but the harvest is not for timber, it is for the essential oil contained in the wood of the roots, trunk and branches. As this traffic started recently, INECN is studying the problem and comprehensive data is not available yet.

4. The Forest Administration

The Ministry of Water, Environment, Land Use Planning and Urbanism (MEEATU) is responsible for the management of forests and forestry plantations. Within that ministry, natural forests in protected areas are managed for conservation by the National Institute for Environment and Nature Conservation INECN (see its presentation in paragraph 4.2 and **Figure 11** of ***Annex 7***). Woodlands outside protected areas (i.e. plantations) are the responsibility of the Department of Forests, which belongs to the General Direction of Forestry and Environment within the same ministry. The Department of Forests, which is therefore the forest administration, is headed by the Director of Forests. It comprises two main services, the Service Development and Extension of Forest Resources and the Service Management of Forest Resources (Service de Gestion et d'Aménagement du Patrimoine Forestier SGAPF). The latter comprises a forest Inventory and Statistics unit and a Wood Processing and Marketing unit (Cellule de Valorisation et de Commercialisation du Bois). The organizational chart of the Department of Forests is presented in **Figure 12** of ***Annex 7***.

At the decentralized level1, the Department of Forests is represented by 6 Regional Inspectors of Forests (North, North-East, Centre, West, South, East). These Regional Inspectors direct the 17 Provincial Inspectors of Forests (Inspection Forestière Provinciale), who are themselves directing the Forestry Officers of Communes (Service Communal des Forêts). The knowledge of this structure is not well known in Burundi as some development actors think that provincial and commune forestry officers belong to the Provincial Direction of Agriculture and Livestock Rearing (DPAE), which is not exactly the case (see paragraph 4.2 for the role of DPAEs in (agro-forestry). These Regional Inspections and their staff at Province and Commune level are in charge of the implementation of the national forest policy (MEEATU, 2012).

The total number of staff of the Department of Forests is about 70 in Bujumbura and 200 at decentralized level, part of them permanent civil servants, and part of them on renewed fixed-term contract. This is equivalent to 1 employee for about 700 ha of woodlands to manage. Compared to some African countries, this ratio is not low, which does not mean that it is sufficient. Most of the staff is subordinate and there is a real shortage of Commune

[1] Administratively, the national territory of Burundi is divided into 17 provinces, 129 communes, 375 zones and 2908 hills.

Forestry Officers: on average one Commune Forestry Officer has actually to cover 4 Communes, which represents a vast area for this type of work and a large number of inhabitants.

Although the Department of Forests has a fairly stable administrative structure, it is a weak institution, mainly due to (MEEATU, 2012):

- a very limited autonomy in financial management;
- limited possibilities to recruit staff;
- the lack of proper services dealing with planning, monitoring and evaluation of activities, statistics, forest research and training;
- insufficient logistical means. Decentralized teams (regional level and below) do not have cars. There are about 2 motorbikes per Province (including the one of the Regional Inspectors), most of them owned by the officers themselves (they bought them at the end of a forestry project when it was closed) and with a small monthly allocation of fuel;
- limited powers and influence to process cases of infractions of the forest legislation.

In spite of the various home-made practical systems devised by the forest administration to cope with its limited resources (human resources, funding and equipment), these constraints induce an acute shortage of technical services across the country to promote and monitor forestry activities.

As regards precisely the Government funding of the forest sector, according to the national financing law (Loi n°1/24 du 31 décembre 2011 portant fixation du Budget général de la République du Burundi pour l'exercice 2012), the budget allocated to the MEEATU for 2012 is 6,837,000 US$, representing 1.2% of the budget of the State. As a comparison, the budget of the ministry of agriculture and livestock rearing (MINAGRIE) represents 5.8% of the budget of the State. Within the budget of the MEEATU, the total allocation for the forest sector is 2,128,352 US$ (0.4% of the budget of the State), comprising (i) various programmes such as the National Afforestation Programme (1,428,000 US$), (ii) the General Direction of Forestry and Environment (12,000 US$), (iii) the Department of Forests (163,000 US$) and (iv) INECN (383,000 US$). A more detailed breakdown for 2012 and 2010 is presented in **Table 9** in ***Annex 8*** Apart from the National Afforestation Programme, the budget of the Department of Forests comprises funds for the payment of its staff, a small operation budget (fuel and mission per diem) and practically no budget for investments. These figures are exclusive of the funding from international agencies (see supporting agencies and projects in paragraph 4.3).

5. The Regulatory framework for timber production and harvesting, processing, transport and marketing

5.1 The legal framework for the sector (forest policy and law)

National forest policy

The last adopted written document of national forest policy dates back to 1984 and is therefore completely outdated. In 2001 an attempt to write a new forest policy was made to mitigate the impacts of the period of crisis but no consensual document could be produced. That is why a draft for a new National Forest Policy (2012-2025) has been prepared recently (MEEATU, 2012) with the support of FAO. This text is currently at the level of the ministry of justice for touching up and then needs to be validated at parliamentary level. It could be adopted in 2013.

This policy, aiming first of all at rehabilitating the depleted forest resources, encourages decentralization, privatization and increased involvement of the civil society and local communities in the sector. One of the reasons of the production of a new forest policy is the harmonization with forest policies of adjacent countries (belonging to EAC and COMIFAC). One aspect of this harmonization concerns the improvement of the concerted management of trans-border areas and the facilitation of the control of the trans-border flows of forest products.

In parallel, the Ministry of Energy and Mines is preparing a national strategy for the energy sector (IED, 2011). This document considers that in the long term fuelwood products will not be able to meet the demand. Therefore, the policy measures proposed are a combination of a diversification of energy sources (hydro-electricity in particular) and a reduction of the wood shortage. To achieve this reduction, the strategy is to improve the organization, the professionalism, the regulation, the taxation and the energy efficiency of the fuelwood value chain at all levels of this value chain (woodland management, reforestation, improved charcoal making, creation of rural markets of fuelwood products ("marchés ruraux") for better control, improved stoves, etc.).

Forest legislation

Generally speaking, it is recognized that a fairly comprehensive forest legislation exists but that its application is the main problem. The main relevant laws in force are:

(i) the Forest Law of 1985 (loi n°1/02 du 25 mars 1985 portant Code Forestier du Burundi). This law is currently being revised;

(ii) the Law of 2000 on the environment (loi n°1/010 du 30 juin 2000 portant Code de l'Environnement du Burundi). In particular a number of its articles deal with protected areas;

(iii) the Law of 2011 on land tenure (loi n°1/13 du 9 août 2011 portant révision du Code Foncier du Burundi). This new law is part of a process that endeavours to reduce land tenure problems, which can affect woodlands;

(iv) the law of 2011 on the creation and management of protected areas (loi n°1/10 du 30 mai 2011 portant création et gestion des aires protégées du Burundi);

(v) the law of 2011 on the trade of wild fauna and flora (loi n°1/17 du 10 septembre 2011 portant commerce de faune et de flore sauvages). This law concerns the application of the CITES as regards Burundi. Its three annexes list the Burundian species which are listed in the corresponding annex of CITES;

(vi) the law of 2005 on the organization of the administration of Communes (loi n°1/016 du 20 avril 2005 portant organisation de l'administration communale);

(vii) the law on penal procedures.

On this bedrock of laws are found a series of application measures and regulations on certain relevant aspects. The main ones are currently:

(viii) the Decree of 2011 on the **organization of the MEEATU** (décret n°100/95 du 28 mars 2011 portant organisation et fonctionnement du Ministère de l'Eau, de l'Environnement, de l'Aménagement du Territoire et de l'Urbanisme);

(ix) the Decree of 1989 on the **creation of the INECN** (décret n°100/188 du 5 octobre 1989 portant création de l'INECN);

(x) a series of Decrees on the **demarcation of protected areas** (Decree of 2000 concerning Kibira National Park and 4 forest nature reserves and series of decrees of April 2011 concerning the remaining reserves, the protected landscapes and the natural monuments) (différents décrets portant délimitation des aires protégées au Burundi);

(xi) the Ministerial Order of 1989 on the cession of the State woodlands (plantations) of an area smaller than or equal to 10 hectares **to Communes** (ordonnance ministérielle n°770/670/89 du 6 septembre 1989 portant cession aux communes des boisements domaniaux d'une superficie inférieure ou égale à 10 hectares);

(xii) the Ministerial Order of 2006 regulating the issuance of **cutting permits and transport authorizations** (ordonnance ministérielle de 2006 réglementant l'obtention des permis de coupes ou des autorisations de transport);

(xiii) the Ministerial Order of 2009 setting up the **participative management of the State woodlands** (plantations) in Burundi (ordonnance ministérielle n°770/578/CAB/2009 du 12 mai 2009 instituant l'aménagement participatif des boisements domaniaux au Burundi);

(xiv) the Ministerial Order of 2009 forbidding the logging and export of sawn products from **Pine and *Callitris*** woodlands (ordonnance ministérielle n°770/1425/CAB/2009 du 6 novembre 2009 interdisant l'exploitation et l'exportation des produits sciés provenant des boisements de *Pinus* et de *Callitris*) issued to stop the bleeding;

(xv) the Ministerial Note of 2000 making compulsory the following documents for the **logging of private woodlands**: (a) certificate of ownership of the woodlot to harvest, (b) note from the Provincial Forestry Officer certifying that the woodlot is mature and (c) declaration of commitment to regenerate the harvested trees or woodlot (note du Ministre en charge des forêts de 2000 exigeant les documents ci-après avant de procéder à l'exploitation des boisements privés: (a) attestation d'appartenance du boisement à exploiter, (b) note du forestier provincial attestant que le boisement se trouve à l'âge d'exploitation et (c) acte d'engagement pour la réhabilitation du boisement ou des arbres exploité(s));

(xvi) miscellaneous forms of regulations: approved management plans when they exist, periodical service notes of the Department of Forests revising the selling price of wood (standing trees, public woodlands) (notes de service du Département des Forêts portant révision des prix de vente du bois sur pied), suspension since 2009 of the issuance of cutting permits and transport authorizations for young poles of eucalyptus from private woodlands (tacit / unpublished measure introduced to reduce the pressure on private woodlands and the felling of immature stands but which means that this activity is not totally forbidden).

The weaknesses of the existing legislation mentioned by different sources come from:

- Insufficient set of application regulations associated to the above-mentioned laws;
- Poor knowledge of the laws even in some cases among those who apply them;
- Lack of awareness on the importance of environmental matters in the tribunals;
- Scarcity of legal experts on environmental matters in Burundi (about 2);
- Existence of contradictions between the above-mentioned laws;
- Very weak application of penalties in case of infractions;
- Problems of insufficient collaboration between services involved in the application of forest regulations.

More specifically, the forest law of 1985, still in force, is recognized to be a fairly clear law but its main weaknesses are (adapted from ACVE, 2012a) :

- It does not transpose in a proper way the commitments of Burundi contained in some international conventions signed by the country. Moreover, some AFLEG / FLEGT recommendations are not properly addressed in the current code (adequate forest taxation, adequate mechanisms for the sustainable funding of the sector, regulations on wood movements, harmonization of country legislations, etc.);
- It is not totally in harmony with the law of 2000 on the environment;
- Some requirements of good forest governance are not sufficiently covered (responsibility, participation of stakeholders, transparency);
- Participatory forest management and the involvement of local communities in forest management do not appear explicitly;
- The question of forest management of the different types of woodlands is present but it is covered in a partial and loose way. The same can be said about the question of competitive bidding to allocate cutting permits in public woodlands, about the question of the requirements (control) to log in private woodlands;
- Aspects of wood movements and marketing are not really covered in the forest law;
- The measures of forest taxation are not convenient and are not a sufficient incentive to encourage investments in forestry activities;
- Sanctions, like fines which are fixed in Burundi francs, are no longer adapted to the current circumstances and are no longer a deterrent to illegal forest activities.

A proposal of new forest law has been prepared by ACVE with the support of FAO (ACVE, 2012a) which aims to address these shortcomings. It insists on the national forest policy, on the strengthening of penalties, on the strengthening of the power of the agents of the forest administrations for prosecutions. It puts emphasis on the involvement of Communes and local communities in forest management. It revises the modalities to deliver the different types of permits. It proposes to set up a National Forestry Fund to increase resources of the forest administration for investments and a National Forest Observatory that would be in charge of collecting regular statistics on the sector.

Like the new national forest policy, this new forest law is currently at the level of the ministry of justice for touching up and could be adopted in 2013 after validation at parliamentary level. No indication has been received of objections concerning the ACVE proposal but at this stage it cannot be confirmed that this proposal will be adopted with no changes.

Current rules of access to the resource (how can one log legally?)

Is wood harvesting allowed in some of the protected areas?

Although the law of 2011 on protected areas is rather vague as regards the definition of the different categories of protected areas and what activities are allowed and prohibited in the "reserves", the various decrees on the demarcation of these protected areas stipulate that tree cutting is forbidden in the forest nature reserves and even in the protected landscapes and natural monuments (in other words, these protected areas belong to the IUCN category IV, and not V or VI). Understandably, the prohibition also applies to national parks.

State woodlands:

♣ Main current procedure in use: Logging in State woodlands is subject to the issuance of a **"Cutting Permit" (permis de coupe)** by the General Direction of Forestry and Environment. The issuance of the permit to the applicant is based on the following preliminary evaluation and procedure (NDONSE, 2012) (note: the applicant is usually a wood dealer):

- Request of the cutting permit: the applicant sends a letter to the Director of Forests, copied to the General Director of Forestry and Environment.
- Selection and marking of the trees to cut, inventory: if the stand(s) or the trees exist (identification of the stands) and if the Department of Forests feels the need to sell them, the trees to cut are selected and marked using the hammer of the forest administration (note: rarely used in reality) or an axe or red paint. The DBH of the trees marked for cutting is measured.
- Valuation of the trees marked for cutting: calculation of the volume and calculation of the price of the permit by the Wood Processing and Marketing unit of the Department of Forests, based on the service note publishing the applicable selling price of wood.
- Issuance of the cutting permit: based on the evidence of the payment of the price of the permit by the applicant to the Burundi Revenue Authority (OBR), the permit is issued to him. A cutting permit is usually valid 3 months.

According to the sources interviewed during the fact finding mission, a logging process and authorization usually originates from the forest administration rather than from wood dealers : State woodlands are managed by the Regional Inspection who can deem at some point that a sale is possible. Officers from the central Department of Forests are then sent to the site to verify this. If no objection is raised, the trees are marked and the Wood Processing and Marketing unit calculates the price. This information (sale, details on it and price) is communicated to wood dealer(s). The one selected receives the permit after he has made the payment for it to OBR. A contract is signed between this operator and the forest administration.

A similar procedure is applied for the sale of seized wood by the administration, which is another possible "legal origin" of wood.

♣ Discussion: the forest law of 1985 currently in force stipulates the management and logging rules of State woodlands in a series of articles which basically regulate the sale of the wood by the State from its woodlands and the requirements to be followed by the buyers of this wood. It first says that all State plantations must have a management plan validated by ministerial order, and that the cuttings are sold by the forest administration by public auction preceded by a public announcement. But, probably because it was written when most large plantations were not yet mature, it then indicates that the absence of a management plan is tolerated ("as an exception and provisionally"), that in this case the logging can take place based on the issuance of a cutting permit (permis de coupe) (the cutting permit concerns a determined number of standing trees), and for this issuance it does not mention that a public auction preceded by a public announcement is required (which suggests that the sale of the wood by mutual agreement (vente de gré à gré) is tolerated or at least not ruled out).

As can be seen, there are two possible legal procedures, the regular one (management plan + public auction) which is rarely used except in the framework of recent pilot projects of public woodland management and the exceptional one (cutting permit without public auction) which is the one that has been mostly in use until now. Although no particular problem of unfairness of permit allocation related to this second procedure was mentioned by those stakeholders who happened to be interviewed during the fact-finding mission, there is a lack of transparency associated to this procedure, as confirmed by BARARWANDIKA & NINDORERA (2008). The lack of transparency and clear rules can be seen at different levels: (i) regarding the decision to carry out cuttings (weight of sylviculture and management criteria versus economic criteria; is it triggered only by the forest administration or is it influenced by wood dealers?) and (ii) regarding the allocation of the permit to a certain applicant, given the fact that the price is set by the administration, not to mention the limited possibility to obtain the best selling price as there is no competition on the latter. Regarding the degree of publicity in this second procedure, notices concerning the sales are apparently posted in the premises of the Department of Forests.

Nevertheless, given the losses incurred in State woodlands during the civil war and its aftermath, logging in this category of woodlands has been restricted and currently concerns occasional and limited volumes compared to the national wood supply (see also paragraph 6). So far logging in State woodlands mostly concerns thinnings. The following information on permits issued in State woodlands comes from the Department of Forests, cited by NDUWAMUNGU (2011). The number of permits issued varies from year to year. There are no long duration concessionaires so far recorded in the country except the recent harvesting contract established with a number of forest entrepreneurs for harvesting line plantations along principal roads. For example, in 2010, forest harvesting permits for a total value of around 12,000 US$ (14.5 million BIF), which represents roughly 4,000 m3 (standing volume), were issued to 14 different individuals and organisations to harvest these line plantations.

Some weaknesses in the system of permit issuance are the following (NDONSE, 2012). Within the central Department of Forests, even if the Service Management of Forest Resources (SGAPF) comprises a forest Inventory and Statistics unit and a Wood Processing and Marketing unit, these two services are not operational. The first one should carry out the quantitative estimation of the plots to log annually and the second the marketing of the plots which are on the list of the plots to sell, but this is rarely the case. On the other hand, the work of estimation of the value of the wood products to log is carried out by the officer of the forest administration in the presence of the applicant for the cutting permit, so that the estimation of the value of the permit is not necessarily objective.

♣ New model of management of State woodlands introduced recently: **participative management**:

Given the extensive damages inflicted to the State woodlands during the period of crisis of 1993-2003 and its aftermath, and given the insufficient resources of the forest administration to take care of these woodlands, a new management principle has been tested in certain forestry plantations of the State and following the first promising results, it has been inserted in the current forest policy: the participative management also called co-management (either expressions are used), meaning a delegation of part of the management of these State plantations to the adjacent communities. It was first tested on a small scale in the north of the country from 2000 onwards (Magara plantation in Ngozi Province, 65 ha, and Ntamba plantation in Muyinga Province, 30 ha). It was then applied and developed with the support of FAO from 2009 to 2010 in the large Eucalyptus plantation of Gakara, 1380 ha (Province Bujumbura Rural), and pine plantations of Vyanda, 5000 ha or less. This pilot project has been the first concrete application of the Ministerial Order of 2009 setting up the participative management of the State woodlands. As the current forest law has no specific provision about community involvement in the management of State woodlands, this pretty clear and inclusive ministerial order gives the legal framework of this concept of co-management. According to this ministerial order, the following elements are required:

- a management plan prepared by the forest administration;
- a basic process towards participative management developed and approved by all parties concerned. The technical annexes of the order provide a description of the main steps to be followed;
- an agreement protocol between the concerned parties (on respective responsibilities and implementation modalities). The technical annexes of the order provide a model of such protocol;
- ratios of sharing of the costs and benefits (analyzed and agreed in each case according to the type of woodland).

The parties mentioned in the order are the forest administration, the Commune administration and Forest Management Groups (Groupements de Gestion Forestière, GGF). The technical annexes of the order provide a definition of the GGF. They are local structures, they are composed of “professionals or actors” of the wood value chain (production to processing and marketing), they can be community associations, local NGOs or private companies of the forestry sector.

This ministerial order will be integrated in the new forest law and the policy is that this form of management should be extended to all State woodland plantations of the country. More information on co-management of State woodlands can be found in BESSE (2010a & b), GAHENGERI & NDIHOKUBWAYO (2011), RUFUGUTA (2010) and RUPEREZA & GORAGOZA (2012).

Other experiments of co-management of State plantations (and Commune plantations) are management plans prepared for 10 plantations in the framework of the Project of Watershed Management (PABV) funded by AfDB (project recently terminated). One of these plans is in implementation phase and the 9 other ones have not been validated yet.

As to the evaluation of concrete experiments of participative management conducted so far, all sources consulted concur to say that results are fairly positive and that it is a good solution for the future. Nevertheless, obstacles have been encountered and still need to be overcome. One is the simple lack of basic resources to set up the systems of management and make them operational (condition of access roads, technical and supervision staff and their working resources, communication means between the sites and Bujumbura, etc.). Another important one is that such activity is very new to the actors involved (BESSE, 2010b). Indeed compared to the time scale of most community forestry projects in the tropics, what has been achieved in Gakara and Vyanda is still only the groundwork of an operational participative management system. In particular, much training of the actors is still needed. Another observation is that the local communities tend to subcontract to private operators activities which are part of their role according to typical community forestry theories, but this is not necessarily a bad thing. The extension to other sites and eventually the coverage of all State woodlands of the country is even more challenging, not to say daunting. Comments of the forest administration on the co-management system are definitely positive but a few stakeholders interviewed mention that there is a kind of reluctance of the administration to this process because it represents a certain loss of power. On the other hand, at this stage, the perception of the local communities seems limited to the feeling that they will be able to log and sell the wood so that an in depth work is still needed to make them realize the investment requirements of these forestry activities. They may not be genuinely interested yet except when they see the possibility of breaching the regulations (allowable cut to respect, etc.).

Woodlands of the Communes:

♦ In accordance with the Ministerial Order of 1989 on the cession of the State woodlands (plantations) of an area smaller than or equal to 10 hectares to Communes, the cutting permit concerning woodlands of Communes is issued to applicants (buyers of the cutting permits) by the Governor of Province (the value of these permits contributes to the funding of the budget of the Communes). The procedure for the technical evaluation of this permit is the same as in the case of State woodlands. The technical and financial control is done by the Provincial Inspector of Forests (NDONSE, 2012).

♦ Discussion: In fact, the question of the respective role of Commune authorities and the forest administration in the decision-making regarding the management of the woodlands of Communes does not appear entirely clear. This is mainly because only small areas of these woodlands remain after the crisis and so they apparently represent rare cases. The current forest law says only that the Commune authorities and the forest administration are in charge of the management of these woodlands "as far as they are respectively concerned". It also says that "the surveillance and the management" (probably referring to the technical management) of these woodlands are the job of the forest administration. It indicates that the procedures concerning management processes and logging permits applicable to State woodlands and Commune woodlands are similar: cuttings are conditioned by a management plan that must be approved by ministerial order or, when such a plan is not available / relevant (small woodlands), by isolated cutting permits, the issuance of which is regulated by ministerial order (the sale of the cutting permit (=the sale of the products to harvest) can be by mutual agreement ("vente de gré à gré") and the money is entirely allocated to the Commune). Following the ministerial order of 1989, according to the officers of the forest administration interviewed, "the Communes manage their woodlands" and market the wood produced, in other words they are autonomous for that. They mention two procedures: (i) process of request of the cutting permit launched by the Administrator of Commune, verification by the provincial forest administration of technical and financial aspects, approval by the Governor of Province; (ii) or management plan prepared by the Commune authorities, technical support and / or verification by the provincial forest administration, approval of the plan by the minister in charge of forests; but they often do not seem familiar with the details (the vaguer aspects concern the decision-making process at Commune level, such as the role of the Commune Council and the Commune Administrator, the modalities of involvement of the forest administration, the application of either of these two procedures).

♦ Until recently, no woodlands of communes had a management plan. In the wake of the development of management plans for some pilot State woodlands (co-management process), a new initiative has started recently with support of the Post-conflict Programme for Rural Development (PPCDR), the development of Management Plans of the forest resources of Communes. At this stage and strictly speaking, for the selected Communes, management plans are developed for the woodlands of these Communes, while the State woodlands and private woodlands on the territory of these Communes are only listed and described (BESSE *et al*., 2012a). The plans include a study of the wood value chain at the level of the Commune. [Currently plans have been produced for 4 communes (BESSE *et al*., 2012b-e) and the preparation of plans is starting for a second group of 10 communes, all this in the 5 eastern provinces of the country]. In the first plans the team of experts proposes a management system based on their experience and the national forest legislation. As the Commune authorities are supposed to manage the plantations but lack the technical competence to do it, the system proposed is a combination of actions of the decentralized forest administration for technical aspects, the use of the local population as part of the system of the compulsory community labour (seen as a form of involvement of local communities) for the works such as plantations and their maintenance and the intervention of private operators for the logging works contracted through public auctions. A procedure of issuance of cutting authorizations is proposed, which is a kind of mixture or variation of the procedures sketched above for the woodlands of Communes. The actual implementation of the plans and the testing of the system remain to be done.

Private woodlands:

The provisions of the current forest law regarding logging in private plantations are that for woods of more than 10 ha, the owner must submit a simple management plan (“plan simple de gestion”) comprising a logging plan to the approval of the forest administration, otherwise for any cutting other than for personal / home use, a permit issued by the forest administration is required. The Ministerial Note of 2000 has completed the law and increased the requirements.

So to log in their woodlots for commercial purposes, the owners of private plantations need a **cutting permit** which is delivered by the Regional Inspector of Forests in collaboration with the Provincial Inspector of Forests on the basis of the following documents:

(a) certificate of ownership of the woodlot to harvest ("attestation de possession de propriété boisée") issued by the Administrator of the Commune and countersigned by the Governor of Province. In some Regions the signature of the certificate by the Administrator is conditioned by the presentation by the owner of a document signed by the Hill authority certifying that the woodlot is effectively owned by this applicant (otherwise in some cases Administrators sign the certificate without really knowing the woodlot);

(b) declaration of commitment to regenerate the harvested trees or woodlot, signed by the owner and countersigned by the Commune Administrator;

(c) note from the Regional or Provincial Forestry Inspector certifying that the woodlot is mature. The species is checked as the logging of pine and *Callitris* is forbidden even in private woodlands. For poles of eucalyptus, no permit can be issued at the regional level and a special authorization from the MEEATU is necessary and is conditioned by the presentation of a management plan. This note is the last document issued and the three documents (a, b and c) are the permit.

Discussion: The forest administration recognizes that the practical arrangement found for logistical reasons (lack of operation budget in decentralized Inspections of Forests) is that the owner, in order to obtain the document (c), pays the fuel of the motorbike of the Regional or Provincial Inspector that is required for the field visit of the woodlot. As to the verification afterwards that the woodlot has been effectively regenerated (see document b), this measure remains largely theoretical: it mainly relies on the coppicing capacity of the trees or the own will of the owner to continue the wood production. Regarding the simple management plans recommended by the forest law, this stipulation is hardly ever respected: it would be difficult to ask private owners to develop tools that are rarely available for public woodlands.

The process allowing transport of wood inside the country:

After acquiring the cutting permit, the "logger" (buyer or owner of the trees) deploys his workforce who will fell the trees and carry out the (first) processing of the wood in or near the stand which is harvested (stacked firewood, charcoal, poles, sawn wood). The transport of these products is authorized by the General Direction of Forestry and Environment who issues to the wood traders an **"authorization of transport" (authorisation de transport)**.

The tax on the authorization of transport is determined by a Service Note of the Director of Forests which is updated periodically. It is a fixed amount per piece for the 6 recognized types of wood products (and groups of species) (see paragraph 6, **Table 2**). It is paid to OBR.

In the case of private woodlands, to obtain a transport authorization the cutting permit must be presented. The transport authorization indicates the reference of the documents of the cutting permit, the reference of the payment of the tax on the authorization of transport, the amount transported (type of product and number of pieces), the origin and the destination of the transport, the plate number of the vehicle and the duration of validity of the authorization. Normally a transport authorization is compulsory whenever the wood products are sold (between the cutting site and the selling place or between successive selling places), even if it is within a Commune. In the case of public woodlands, the buyer of the wood needs the transport authorization which is delivered by the General Direction of Forestry and Environment at the end of the harvesting. According to a private wood dealer / transporter interviewed, recently in State woodlands the forest administration tends to carry out the felling operations itself ("abattage en régie") to avoid the numerous abuses (avoid clear cutting when only a selective cutting is authorized). In that case, no cutting permit is issued, the operator who carries out the first processing of the wood (sawing, firewood making) on the site and transports the products just applies for the transport authorization; the copy of the advertisement of the sale of the cutting is annexed to this authorization.

The process allowing export of wood:

There are no particular provisions on exports in the forest legislation, apart from the above-mentioned Ministerial Order of 2010 banning the export of sawn pine and *Callitris* wood. Procedure requirements for exports are presented in paragraph 4.7 below.

5.2 Other institutional stakeholders

As introduced in paragraph 3, natural forests in protected areas are managed for conservation by the **National Institute for Environment and Nature Conservation INECN**. This public institution (établissement public à caractère administratif) is attached to the ministry in charge of forests and environment, MEEATU. It is steered by a board of directors (conseil d'administration) and managed by a Director General. INECN has actually two branches, on the one hand a Technical Direction in charge of the management of the network of protected areas (see paragraph 2.) and on the other hand a Direction of Environment in charge of environment, environmental research and environmental education which is the national authority for all environmental matters (cross-cutting mandate): see organizational chart of INECN in **Figure 11** of ***Annex 7***. The staff deployment of INECN (total 307 employees, about 180 of whom working for forest ecosystems) is summarized in **Table 4 in *Annex 4***.

Strengths and weaknesses of INECN are analysed by UICN (2011) and KISIOH (2012). Although it is a reasonably well established and organized structure, although improvements have been observed after the period of national crisis, it still presents important weaknesses:

- It is stretched due to its double mandate (protected areas and environment countrywide). UICN (2011) describes it as a dichotomy of mandate;
- UICN (2011) mentions that the institute, which reported to the Presidency when it was created in 1980, lost some of its political support when it was transferred to the ministry in charge of the environment;
- It relies on the State for funding (see 2012 figures in paragraph 3 and in **Table 9** in ***Annex 8***) and receives only what is necessary to pay the staff. The salaries of the staff are low, no government funds are received for operations and investments. It is not authorized by the Government to recruit staff and yet many rangers are old and should retire. As the institution receives no operation budget, it has debts.

At the institutional level, the main weak points of the management of the network of protected areas are (UICN, 2011):

- Little political will to invest in protected area conservation and a small awareness of its importance among politicians and decision-makers, which results in a disregard for adopted texts and a lack of commitment to fund these protected areas (no budget for the operations of protected areas apart from salaries, no long term commitment to fund them);
- a lack of collaboration between the other government services in charge of law enforcement on protected areas (police, etc.) and INECN.

An **Environment Police** (Police de l'Environnement) was created in 2005 following a request of the ministry in charge of forests and environment. Its main activities were supposed to be the control of the transport of wood and the control of traffics of resources from protected areas. According to sources within the MEEATU it has been disbanded recently, only a few years later, because it was creating more problems than it used to solve. It was attached to the Ministry of Public Security, for which this force was not a priority, so that the institutions of the MEEATU had no authority on it. Furthermore its staff had not been recruited based on qualifications in environmental subjects and had not received a sufficient training on these questions (UICN, 2011). It is not very clear if it has been suppressed altogether as some sources within public institutions believe it still exists.

Beside the Department of Forests (MEEATU), the **Ministry of Agriculture and Livestock Rearing** (MINAGRIE) also maintains Forestry Officers of Communes. They are staff of the Provincial Direction of Agriculture and Livestock

Rearing (DPAE). They are mainly active in agroforestry promotion (projects of watershed management including tree planting) and are part of the miscellaneous decentralized public services that can play a role in the detection and prevention of illegal logging activities. The Direction General of Forestry and Environment has requested the transfer of these foresters of the DPAE to the Department of Forests with the aim to address its preoccupying shortage of Commune Foresters.

As discussed in paragraph 4.1, the **Commune authorities** have an important role in the management of the woodlands of Communes, even if until now these management processes are still in development. Furthermore, as stipulated by the Ministerial Order of 2009 on participative management of State woodlands, the Commune authorities can be parties of the contracts of co-management of State woodlands, another system that is still at the level of pilot projects. Finally, the decentralized authorities issue one of the documents required to obtain a cutting permit in private plantations. The authorities of the Communes where the wood comes from systematically collect some taxes on the sale of timber and charcoal.

As introduced in paragraph 4.1, the **Ministry of Energy and Mines** defines the orientations of the national energy sector (IED, 2011) and so is also involved in the regulation of the fuelwood production, processing, marketing and consumption. It is active in particular at policy development level and it is more present than the forest administration downstream of the fuelwood value chain. Its strategy (IED, 2011) recommends to "entrust from now on the steering of the energy sector exclusively to the Ministry of Energy and Mines for rationality reasons". The feasibility of this option remains to be confirmed.

Apart from isolated contracts occasionally signed by the forest administration with scientists or experts, there is no on-going program and no operational service of forest research.

The **Police** forces play an important role to collaborate with the forest administration in the control of the transport of the wood along the roads and in town: see paragraph 4.4.

Burundi Revenue Authority (OBR) is the institution that collects some of the taxes on wood products which are for the Government (see paragraph 4.1). The Customs, which are also a department of OBR, are responsible of the main part of the procedure of export of the wood (see paragraph 4.7: on customs procedures). The customs are using the internationally standardized ASYCUDA system (Automated System for Customs Data) introduced by UNCTAD (United Nations Conference on Trade and Development). The Customs are the only service to generate comprehensive statistics on imports and exports of wood products. OBR has been in a process of reorganization these last years and has gained efficiency. As part of the membership of Burundi to the East African Community (EAC), the Customs services have been modernized, but this process is still on-going.

Some border posts, the smaller ones, are not manned by the customs. Import and export controls at these posts, including for wood products, are carried out by a special branch of the police, the **Airport, Border and Foreigner Police** (PAFE), while the trucks have to complete the formalities at the nearest OBR office (which is usually in the first town inland). These controls appear to be less reliable than where OBR is present at the border post.

Under the system in force in Burundi, the harbour of Bujumbura is the place where most formalities of import and export of goods, including wood products, take place, whether it is for goods transported by boat on Lake Tanganyika or by road. Therefore, the **Operator of Bujumbura Harbour**, EPB (Exploitation du Port de Bujumbura), plays a role in the reception and storing of these goods and in some of the related formalities, next to the Customs. EPB keeps up-to-date and analysed statistics of the imports and exports of all goods arriving in or leaving Bujumbura harbour by boat on the lake, including sawn wood and paper (other wood products are recorded among miscellaneous goods). EPB is a private company which has got the concession for this activity. The concession contract of EPB ends in December 2012 and a new contract will be awarded.

The CITES management authority is the DG of INECN. The scientific authority is also within INECN. Law enforcement ("control") regarding the CITES species is the responsibility of the services of INECN in collaboration with the services of the customs and of the border police PAFE.

As regards climate change, the focal point of UNFCCC / REDD+ is the Director General of **IGEBU**.

The **tribunals** should play a role for the prosecution of the serious offenders to the forest legislation but they are a rather weak part of the forest law enforcement chain (see paragraph 4.8).

Many sources indicate that corruption is a serious problem affecting the public institutions of Burundi. According to a survey carried out in 2011 among east African countries (Transparency International, 2011), the bribery prevalence level was ranked highest in Burundi. This survey indicated a very low level of reportage of bribery cases (around 3% of cases) in this country, apparently caused by a fear of intimidation and a low confidence in the institutions receiving corruption-related complaints. The ranking of the main institutions established by the same survey places the police in the most unfavourable position, followed by OBR (but improving significantly compared to previous years), then followed by the judiciary. Decentralized authorities are among the institutions which reach a better score. No specific results are given for the forest administration and INECN (pooled with other institutions). According to another survey conducted worldwide, the Corruption Perceptions Index published by Transparency International in 2012, Burundi occupies a very unfavourable position with no improvement since 2011 [2012: rank 165 out of 176 countries, score 19/100 (a score of 100/100 is the cleanest); 2011: rank 172 out of 183 countries, score 19/100]. Following the publication of this report, the Government of Burundi has rejected these results and asked Transparency International to revise this ranking and score, on the grounds that since 2007 the Government has taken a number of concrete measures to combat corruption and that it is receding. On the other hand, very few specific reports exist on cases of corruption regarding forest resources.

Many sources indicate that institutions as a whole do not function well and that there are problems of governance, but no source consulted in this study has indicated a worse situation or a notably bad reputation for institutions specifically in charge of the forest sector (forest administration, INECN). Among the institutions met during this fact finding mission, OBR seems to be the only one that operates fairly normally (organization, deployment, equipment, presence of the staff in offices or in the field during working hours, responsiveness to external aid and ownership taking of the actions it supports, availability of data, etc.). INECN appears to operate normally too, but it shows more weaknesses.2

5.3 Other actors

As regards the **international technical and financial partners** of Burundi working in the forest sector (agencies and projects), the Post-Conflict Programme of Rural Development (PPCDR) funded by the European Union has been implementing different actions related to forestry: development of a national Geographical Information System (a central one at IGEBU and a smaller one in different ministries), production of master plans of land use for 4 Provinces ("Schémas Provinciaux d'Aménagement du Territoire"), agro-forestry plantations for watershed management on a fairly large scale and, more specifically related to forestry, the development of management plans of the forest resources of Communes (see details in paragraph 4.1).

The EU also supports FLEGT-related projects through FAO (ACP-FLEGT Support Programme; calls for proposals; see point 4.12 below).

FAO has been a partner of the forest administration for years and has supported recently the development of the national forest policy, the improvement of the forest governance, the application of pilot models of forest management and the production of certain studies on the forestry sector (through the National Forest Programme Facility *a.o.*) (see paragraphs 4.1 and 13).

AfDB has supported actions of afforestation, forest management and, like a number of other cooperation agencies, actions of watershed management comprising agro-forestry plantations.

UNDP is starting a new project to support the protection and management of protected areas, including some institutional support to INECN ("Amélioration du système de gestion des aires protégées pour la conservation de la biodiversité au Burundi à travers l'engagement des parties prenantes").

[2] Given the length of the fact finding mission, a longer investigation would be needed to validate this rapid assessment.

Besides "governmental" international cooperation agencies, a few **international environmental NGOs** are present and active in the forest sector in Burundi. IFDC implements the SEW project (Sustainable Energy production through Woodlots and agroforestry). Besides tree plantations, the project carries out actions to improve the wood value chain, in particular the woodfuel value chain (training of charcoal makers in improved techniques, organizational training of associations or small enterprises of the sector, improved stoves). As regards forest protected areas, Wildlife Conservation Society (WCS) brings support to Kibira National Park and has been instrumental in the organization of a transboundary collaboration between Burundi and Rwanda for the protection and management of Nyungwe and Kibira national parks. IUCN also works in forest protection in the Great Lakes Region including Burundi (see paragraph 13).

As regards **national NGOs working in the forest sector**, the main one is ACVE (Action Ceinture Verte pour l'Environnement). It is mainly active in forestry and conservation and more generally in the protection of the environment and rural development. Its services are professional and since its creation in 2005 it regularly implements projects funded by international agencies (EU, FAO, GIZ, UNDP, French cooperation, etc.). Beside the implementation of projects it is also lobbying for the protection of the environment in Burundi, in particular for the protection of the forest protected areas (MBONERANE, 2011; NZIGIDAHERA, 2012). It is one of the few environmental civil society organizations in Burundi that is influential and openly denounces the cases of illegal activities in which government institutions do not play their role of law enforcement.

Among the main national NGOs working in (agro)forestry and forest conservation is FDMR (Fédération pour le Développement du Monde Rural). It is a federation of 6 environmental associations and about 300 farmer associations. For several years, FDMR and ACVE have worked with the company ERA based in Canada to design a large scale ecosystem restoration project in and around the severely degraded afromontane forest of Kibira National Park. Indeed, in 2009 the Government of Burundi granted approval to ERA to proceed with the design of such a carbon offset project within and around the Kibira National Park. With its partners ACVE and FDMR, ERA plans to use local labour for the establishment and maintenance of nurseries, planting of woodlots, tending of seedlings and forest protection. In other words, there is a reforestation component in the project and a REDD component (objectives: 10,000 ha replanted with indigenous species in 5 years, 10,000,000 t of CO_2 sequestered and sold in 50 years). ERA plans to sell carbon on the voluntary carbon market. ERA has pledged to use a portion of the carbon trade proceeds to create income-generating programmes for local communities and to improve the operational capacities of INECN (NDUWAMUNGU, 2011; ERA, 2009). The agreement between the Government and ERA has not been finalized.

There are a number of national environmental NGOs who occasionally implement forestry projects or forest conservation projects (field projects or studies for international agencies, see paragraph 13). The main ones are the following: ABEIE (monitoring of mining activities e.g., consulted to draft the new national forest policy), FOADI, APELUSI, ODEB, SPEAP (Synergie du Peuple pour l'Encadrement Agro-Pastoral et la Lutte contre la Pauvreté ; has obtained a grant from the FAO ACP-FLEGT Support Programme for a community conservation project for Monge Forest Nature Reserve). All these organizations expose and deplore the degradation of the environment (including forest degradation) but few venture into activism and would go as far as challenging the Government institutions or criticizing them. The association AAN (Association des Amis de la Nature) who regularly posts articles in the weekly magazine IWACU Burundi (« Les voix du Burundi ») to denounce the damages to Vyanda Forest Nature Reserve is among the latter. The national NGOs advocating for the improvement of governance in general, do not seem to be involved in forestry issues, at any rate their internet site provides no reference to this sector (example: FORSC (Forum for the strengthening of Civil Society; Forum pour le Renforcement de la Société Civile), a federation of associations; OLUCOME (Observatory for the Combat against Corruption and Economic Embezzlement; Observatoire de Lutte contre la Corruption et les Malversations Economiques).

Many other civil society organizations are active in the forestry sector across the country. Nevertheless, most of them have local objectives. The majority of them are involved in tree planting activities and watershed management.

As regards the **professional organizations, and private operators of the wood value chain**, they are the following.

Upstream of the value chain, apart from the countless private owners of woodlands, woodlots and trees on farms, the local communities, structured in groups (GGF), have been involved more and more in public woodland management: see paragraph 4.1 (participatory management / co-management, especially the evaluation of this).

Given the size of woodlands and trees, the steep relief in the western part of the country, the availability of labour, logging is hardly ever mechanized (felling and timber extraction) (see paragraph 7) and there are no "logging companies" in Burundi as they exist in the lowland Congo Basin for example.

Tea factories use large amounts of firewood and they have their eucalyptus plantation estate to produce at least part of their wood supply, but otherwise little is known on the wood supply of these factories. There are 6 factories with tea plantation in Burundi, among which 5 belong to the State company OTB and 1 is private (see paragraph 6).

Otherwise, for the wood supply of the national market, the value chain comprises three common categories of commercial operators (NDONSE, 2012):

- Category 1: wood dealers (they could be called loggers) who buy a cutting permit from the State, the Communes or private owners of woodlots. This category merely organizes the felling, the charcoal production or stacked firewood production and / or the sawing of the wood on or near the site.
- Category 2: wood dealers (they could be called transporters) who buy the products from the first category of dealers near the plantation and transport them to wood markets in towns (especially for sawn timber) or to important buyers (charcoal retailers in town, tea factories, military camps, bakeries, carpentry workshops, etc.). As regards eucalyptus poles (coming mainly from private plantations), these dealers smuggle them to towns to be sold for uses in construction. Occasionally some of these dealers export mainly sawn wood legally or illegally to Rwanda or Tanzania.
- Category 3: they are the merchants who sell wood products in the wood markets of the towns and also process some of this wood in their workshop. They buy this wood from the dealers of the second category.

An operator of category 1 and 2 interviewed, who could be considered as an entrepreneur of appreciable size (owner of 3 trucks for wood transport, processing and selling about 4,000 m3 RWE/year, 80% firewood and 20% sawn timber), mentions the following constraints in his business: difficulty to find wood and shortage of industrial companies using wood. He notices that the government promotes afforestation a great deal. He deems that investing in forest plantations (buying some land to engage in wood production, starting with firewood while high forest for sawn timber is growing) would be profitable in the present circumstances. He is seeking opportunities to receive training in wood technology.

In relation to category 3, there are very few industrial operators /large companies processing the wood in Burundi: see processing industry in paragraph 7. Timber products are sold in different places in the capital. There are a number of very small wood markets for poles (a few piles each) scattered on the territory of Bujumbura along streets or roads of the suburbs: this wood is sold openly but was harvested and transported most of the time illegally. The sale of sawn timber is more centralized; there are two main wood markets for these products:

- The market of Jabe is the main one. The products sold there are sawn wood produced in Burundi (eucalyptus, *Grevillea*, pine, cypress: see paragraphs 2 and 6) on the one hand and boards (plywood mainly) imported from abroad or recycled on the other hand. Sawn hardwood for sale imported illegally from D.R. Congo is found in the covered yards of workshops around the market. The dealers of the Jabe market are retailers of timber products, many of them with a carpentry workshop. They buy the Burundian timber from transporters whose trucks daily supply the market. The Jabe market is not much covered against the rain (only some lots have a roof, the sector of boards has makeshift roofs) and is not fenced. The quality of the sawn wood for sale is often low (poor storing in many cases, presence of defects and irregular dimensions and shapes, dry wood almost impossible to find).

- The “Buyenzi City Market / Chez Sioni” is similar to the one of Jabe but smaller. Beside timber, a section of this market is for firewood and poles.

Many dealers and carpenters of Jabe wood market are members of an association called Fashamya. But this association is only one year old and is not yet very operational. They have formed this association to try to be stronger against the main problems they face: stealing of wood, difficulties on the roadblocks during the transport of wood: contestation of cutting permit and the transport authorization, inducing corruption (this problem might have been more related to the environment police when it was operational).

As a whole, the producers and other operators of the wood value chain are poorly organized. The lack of access to credit is also mentioned as a specific constraint for these operators.

As to the other actors of the forest sector, the media occasionally cover forestry or forest conservation topics, but these subjects are by no means high on the agenda. A proper survey of this aspect could not be conducted as part of this study, all the more so as a good part of these media are in Kirundi language. Regular browsing on the internet of topics related to forestry and forest governance in Burundi during the period of the present study, using key words and common search engines gave the following results.

On the site Burundi Transparence (http://www.burunditransparence.org/), which concerns all sectors of public life, 4 articles were found on forestry-related subjects out of about 1000 articles accessible. Among them one of 2010 was about timber flows and FLEGT in the Great Lakes region, relaying the information on the international workshop in Bujumbura on this subject (http://www.burunditransparence.org/trafic_bois.html). Another one of 2012 is on deforestation in Burundi and presenting arguments it criticizes the inertia of the government to control this problem (http://www.burunditransparence.org/deforestation_inertie.html). The internet site of the weekly magazine IWACU Burundi (« Les voix du Burundi ») has a tab on environmental articles, mostly in French (http://www.iwacu-burundi.org/index.php?page=environnement). For the whole year 2012, out of a total of 57 articles under this tab, 45 are on the environment in general (pollution, threats for Lake Tanganyika, erosion and water resources, solid waste and dumps, anarchic constructions, green spaces, etc.), 4 are on reforestation initiatives, 3 on protected areas (miscellaneous aspects: wildlife, savanna bushfires, etc.), 3 on deforestation in protected areas and 2 on deforestation and forest degradation outside protected areas (public plantations).

5.4 The Legality Verification Systems

A Legality Verification System is one of the main instruments to set up in a FLEGT process, starting from what exists and restructuring it and beefing it up. Yet, for Burundi only an embryo of the different components of a LVS exists and many elements remain to be built.

Databases

For a start, the systems to collect the information within the forest institutions are really rudimentary. Very few databases exist and are operational in the forest administration:

- records on the wood products entering Bujumbura city are available: see below (control of the movements of the wood).
- there is no elaborate system of recording of the cutting permits and transport authorizations allowing effective or thorough verifications and a real monitoring / resource management, especially over longer periods of time.
- there are no records on the fines for forest infractions: only OBR seems to keep records on all sorts of fines they collect.
- there are no records on imports of wood products, no structured records on exports.
- few forest maps exist, only paper maps for some afforestation blocks.

A general observation is that the collection of data on wood quantities by the forest administration and the customs is in number of pieces. For timber products, given the variability of the dimensions, the habit should be introduced to increase measurements allowing to indicate or calculate amounts in real volume. Generally speaking for all sources (records of national administrations AND reports of consultants), mix up over figures in number of pieces, real volume and RWE volume or insufficient information on the units are widespread. Training and awareness raising are required on these aspects.

Definition of legal wood

The definition of legal wood is fairly simple and mostly related to the availability of a cutting permit and transport authorization. However, some small operators mention the contestation of these documents by the police as a source of problems, which might indicate that there are actually problems of interpretation. The legality of the wood is apparently also less clear as regards wood harvested in plantations of Communes and wood to export.

System of control of the movements of wood

The principle is that the control of the commercial movements of the wood is based on:

- step 1: the compulsory transport authorization issued by the forest administration (based on or referring to the cutting permit);
- step 2: then a control based on the verification of the load versus this transport authorization along the roads. Two modalities exist for this second step:
  - control by staff of the forest administration at certain checkpoints;
  - control by the police controlling the normal traffic on the whole road network of the country: normal vehicles are checked for driving licences, vehicle documents etc., while the trucks transporting wood products are also controlled for their load. Due to the limited staff of the forest administration and the recent dissolution of the Environment Police, this modality is the main one and represents for the State an affordable system.

Field Controllers of the Department of Forests along the roads are deployed in and on the outskirts of Bujumbura, in Gitega and in Rumonge, the places of the country where wood flows are the most intense. Elsewhere, for the control of the movements of the wood, the forest administration relies on the collaboration of the police. This collaboration with the normal police seems to be relatively effective and smooth (regular meetings of briefing, evaluation and coordination, etc.), at least according to the forest administration at central level (see additional information in paragraph 4.8).

In principle, all wood products entering the capital (population around 550,000 inhabitants according to the city administration) are inventoried at the 5 check points at the entry points of Bujumbura city where the Controllers of the forest administration are distributed, and their legality controlled. At each checkpoint there is a team of about 5 Controllers comprising a team leader and an officer recording statistics. This officer produces a weekly and a monthly report. The other officers control the presence and validity of transport authorization, the origin of the wood, the amount effectively transported and the plate number of the vehicle. If the wood products are illegally transported, the vehicle and the load are seized and guarded at the headquarters of the forest administration. They are released only after the transporter has paid a fine (NDONSE, 2012). At night the checkpoints are closed and the trucks have to wait until the morning to enter the city. The records are broken down into taxable and non-taxable products (that is to say commercial or for own household consumption), then the entries are the type of product, the Commune of origin and the quantity. No taxes are paid at the checkpoint (they are paid to OBR, like the fines).

In reality, as observed during the fact finding mission, these roads are not closed at these checkpoints during the night and trucks transporting all sorts of goods (so potentially also wood products) continue to enter the city, uncontrolled. As a consequence of this, most traffic of wood products entering Bujumbura takes place at night (BARARWANDIKA & NINDORERA, 2008). Bicycles, which bring daily a substantial part of the commercial charcoal supply of the capital are able to bypass the checkpoints by entering the town elsewhere. The data on the wood products entering Bujumbura through the harbour remain with EPB and OBR and are not included in this database (admittedly the types of wood products are mostly different). Finally, the other towns of the country are not covered by this system of control and data collection.

On the cutting permits for logging in private plantations, the indications on the amount that can be harvested and the position of the woodlot are not accurate nor detailed so that at any later stage it is difficult to form a clear idea on the origin of the wood.

When the wood products, in particular the timber products, reach the markets in Bujumbura (Jabe, Buyenzi City Market, etc.) or other towns, they are stocked for sale by type of product, dimensions and species, regardless of their origin, which is basically forgotten. There are no marks on these products that can inform on their origin (Province, Commune or stand).

Legality verification

In the case of logging in public woodlands, the forest law in force mentions that following the issuance of the cutting permit and the logging itself, a verification by the forest administration should be carried out within a certain period of time to check that the trees felled correspond to what was allowed in the permit ("récolement"). In practice, this verification rarely takes place (BARARWANDIKA & NINDORERA, 2008). This is a source of regular abuses.

One of the projects of the forest administration has been to create so called Multi-purpose Centres of Wood Production ("Centres multifonctionnels de production de bois"), related first to the main blocks of State plantations, currently mature. One of the objectives has been to promote state-of-the-art practices of logging, wood mobilization and processing (reduction of the impacts of the harvest; sale by public auction; wood quality: dimensions, drying; etc.). Another objective has been to centralize wood processing and marketing for a better control of the legality. However, due to the small available annual budget for this initiative, the implementation of this project has only concerned a few isolated actions and no real centre has been developed.

Independent forest monitoring

There is no formal independent forest monitoring. Some national environmental NGOs are watchful of the situation and produce reports or articles when problems develop (see paragraph 4.3). A close monitoring, independent or not, is anyway difficult as long as baseline data, such as maps of forest cover and land use are not available.

5.5 Timber Tracing

In the vast majority of logging operations in Burundi, even the broadly legal ones, there is no marking of the stumps of the trees felled and no marking of the logs, poles or sawn products. The forest law in force does not mention marking tools such as the hammer of the forest administration. This type of hammer can be mainly used by the administration for thinnings in public woodlands to mark the trees that can be felled, but it does not represent a means to track the products. The officers of the Department of Forests at Provincial and Commune level have a few of these forest hammers that were introduced a long time ago by a World Bank forestry project but they are not used.

As already explained in paragraph 4.4 (control of the movements of the wood), the system of issuance of the transport authorization, based on a cutting permit for the issuance of which precautions are taken to check the ownership of the woodlot and the type of cutting requested, is what exists in terms of tracing system, even if it is basic and not very rigorous. International partners in many FLEGT meetings have recommended to the forest administration the setting up of a system of marking of the timber. The forest administration wishes to introduce such a system, to reduce illegal cuttings, control the volumes produced and improve the knowledge of fiscal income. It recognizes that no such system exists in Burundi and that some other countries are more advanced on this.

5.6 International conventions and trade agreements

International conventions:

Burundi is a member of the COMIFAC / CEFDHAC (Loi n° 1/40 du 30 décembre 2006 portant ratification par la République du Burundi du Traité relatif à la conservation et la gestion durable des écosystèmes forestiers d'Afrique Centrale et instituant la Commission des Forêts d'Afrique Centrale (COMIFAC)).

A transboundary collaborative framework has been initiated with Rwanda for the management and protection of the complex formed by Kibira and Nyungwe national parks.

Trade agreements:

At the regional level, Burundi is a member of the Economic Community of the Great Lakes Countries (CEPGL), the Common Market for Eastern and Southern Africa (COMESA), the Economic Community of Central African States (ECCAS) and the East African Community (EAC). Practically speaking, it is the belonging to EAC that seems to influence mostly the modalities of wood imports and exports of the country. EAC integration process is felt for example in the customs regulations, infrastructure development and equipment acquisition.

As a member of CEPGL, Burundi has ratified the convention on the protection of plants between the member countries of this community (this convention aims at promoting cooperation for the protection of plants).

5.7 Requirements for Export of Forest Products (including customs procedures)

The physical organization of the controls and formalities at the border is as follows. There are two types of customs "bases":

(a) The customs "Offices" (Bureaux des douanes) are a few centralized facilities where the full formalities to declare and clear imports and exports of goods can be done. There are 3 customs Offices in Burundi: Bujumbura harbour, Gitega (inland) and Kayanza (inland). Regarding the Office of Bujumbura, by far the biggest one (central office), there are actually 2 sites which are separate (each fenced) although they are adjacent: (i) the harbour itself, which concerns both the imports and exports by boat on the lake and a possible part of the procedure of imports and exports by truck by road, and (ii) the truck station, which concerns another part of the procedure for the goods arriving by road. In the harbour, OBR agents and EPB agents work next to each other (in each warehouse, at the entry gate of the trucks and at the exit gate of the trucks).

(b) The customs "Posts" are all the other border posts where above a certain threshold of value of the goods, only a simple and partial procedure and verification is carried out (at the border) while the main part of the procedure must be accomplished, before for exports and after for imports, in a customs Office. For exports or imports under this threshold, the whole procedure can be done at the border post. For each customs Post there is a certain threshold for imports (500 to 5,000 US$ according to the post) and a certain threshold for exports (often 500 US$).

In other words, most of the time for imports by road, the trucks accomplish a simple procedure at the border post and proceed to Bujumbura harbour where the full procedure is completed. Conversely, for exports, the formalities are mostly done first in Bujumbura harbour, and short formalities are completed at the border post when the truck leaves the country. The OBR agents at the border posts sometimes use the word "goods in transit" equally for goods in real transit (going from one country like D.R. Congo to another like Tanzania through Burundi) or for imported goods which are passing through the border post to go to Bujumbura for end-use in Burundi, which can be confusing at first.

Obviously, some customs Posts or Offices are harbours (Bujumbura, Rumonge, Nyanza-Lac) while the others are border posts along roads. Beside normal border posts manned by OBR, there are secondary border posts manned by the police. As part of the membership to the EAC, the series of border posts are being progressively upgraded, especially at the border with Rwanda. One-stop border posts are being built (almost completed in Gasenyi I and Ruhwa), where the Burundian and Rwandan customs offices are in the same building and special infrastructure is developed (weighing bridge for the trucks, warehouses, parking space), in order to facilitate the formalities. The customs Posts have also been progressively equipped with computers, so that declarations are immediately entered in digital format and are sent by e-mail to the next office where the truck is going. 4 posts out of the 10 posts and decentralized offices are not yet computerized and this number will be reduced in the coming months. The opening of certain one-stop border posts, combined with some road rehabilitation will cause a likely redistribution of the transboundary traffic of trucks and change of the respective importance of the posts in the coming years.

Procedures:

As mentioned above, the export of pine timber is now forbidden and this tends to be enforced, as far as possible. During the fact finding mission, piles of pine planks corresponding to several trucks were observed at the border with Tanzania, which had been seized by the customs. While no agents of the forest administration are present at the border posts, a competent OBR agent had been able to recognize the species, which is not always the case. Another pile of pine planks had been seized by the police at the border because they were smuggled at night.

For other common species (eucalyptus and *Grevillea* mainly), legal exports represent very small quantities, so that the knowledge of the specific requirements for the export of these products is very limited among the professionals of the sector (Burundian wood dealers, OBR agents, etc.). According to the Department of Forests and OBR central office, it appears that a special authorization to export timber must be requested to the MEEATU, which will be issued by the Director of Forests (this is a kind of special procedure). Like for any wood transport within the country, a transport authorization of the wood up to the border is compulsory, also signed by the Director of Forests.

The whole set of documents required for exports are:

- A licence of export issued by the national Bank of Burundi or by a commercial bank and valid for 1 year. A Declaration of Intent to Export is a pre-requisite to obtain the licence. This licence is a form of accreditation as an exporter;
- Commercial invoice for the goods, final and original;
- A declaration of export, prepared by a clearing agent (agent en douane, transitaire) and verified by OBR;
- Transport invoice, original;
- A certificate of origin issued by OBR;
- The certificate of insurance of the goods;
- For wood products specifically, the above mentioned authorization from MEEATU.

Likewise, the documents required for imports are:

- A licence of import issued by the national Bank of Burundi or by a commercial bank and valid for 1 year. A Declaration of Intent to Import is a pre-requisite to obtain the licence. This licence is a form of accreditation as an importer;
- Commercial invoice for the goods, final and original;
- A declaration of import, prepared by a clearing agent (agent en douane, transitaire) and verified by OBR;
- Transport invoice, original;
- A certificate of origin, for goods from the EAC, proving that they come from these countries, so that no duties are paid;
- The certificate of insurance of the goods;
- Certificate of SGS inspection (attestation de vérification) issued in the country of origin of the goods, for products above 5000 US$;
- Bill of lading / waybill document, original (letter de transport), for the imports by boat;
- Packing list (liste de colisage).

For most goods imported by road, which as explained above will be finally cleared in Bujumbura harbour, OBR at the border post fills in a document called T1 (called "passavant à caution" in the posts which have not been computerized yet), based on the import declaration. This document is meant to follow the goods in relation to the guarantee paid by the customs agent to OBR as long as the clearing procedure has not been completed in Bujumbura harbour. As most of the goods are imported in containers, the trucks usually enter Burundi with seals either from the exporting country of origin, or from a harbour like Dar-es-Salaam or from the customs of the neighbouring country. In that case, the content of the container is nor checked by OBR agents at the border (only the documents are checked), who may add their own seal: if needed, the physical verification usually takes place in Bujumbura harbour.

For wood exported by truck with all necessary documents, according to OBR there is rarely a physical verification when it leaves Bujumbura harbour as no export duty has to be calculated and applied and the general policy of OBR is to promote exports. Export of timber besides represent very rare cases. Some variations and local arrangements seem to exist regarding the procedure of export of sawn timber. It is not always started in Bujumbura, a transport authorization from MEEATU is sometimes mentioned by OBR as compulsory, sometimes not mentioned, the same about the cutting permit; etc.

For wood entering in transit, the documents issued in the country of origin are checked.

The various taxes and charges to pay are the following:

- Exports: no export duty (0%), to promote exports. Only a small administrative charge of 10000 BIF is charged.
- Imports:
  - import duty: 0% if the products come from the EAC with the supporting certificate of origin;
  - import duty: 10% for sawn wood imported from D.R. Congo and other countries outside EAC (application of the Common External Tariff of EAC). Other percentages are applied for some other wood products (25% for more processed products).
  - V.A.T.: 18% (whatever the origin of the wood).
  - Lump sum (prélèvement forfaitaire): 4%.
  - Administrative charge (redevance administrative): 0.5%.

5.8 Law Enforcement

All sources consulted indicate that in spite of the efforts of the concerned administrations and the progress, forest law enforcement is still weak. The reasons have been already mentioned: insufficient resources of the institutions in charge of this enforcement (see paragraphs 3 and 4.2), low penalties (see paragraph 4.1), lack of knowledge of the forest legislation and insufficient concern about environmental matters among magistrates (BARARWANDIKA & NINDORERA, 2008). The introduction of the Environment Police was a commendable measure but resulted in a failure.

Law enforcement regarding protected areas:

According to the law on the environment of 2000, the agents of INECN are “Judicial Police Officers with limited competence” (“OPJ à compétence restreinte”). It means that they can arrest offenders to the legislation on protected areas, produce certified reports ("procès-verbaux"). The same law authorizes them to determine the sanction and for the most serious cases bring the offenders to the tribunals. However, one problem encountered is that according to the law they cannot be armed, which practically limits their efficiency and influence. To counter armed offenders, INECN has to request the collaboration of the police or the army to organize mixed operations, which are more difficult to organize. Fortunately, in the framework of the transboundary collaboration between Nyungwe and Kibira National Parks, mixed patrols with armed Rwandan rangers are organized from time to time in the Kibira forest. In the past, INECN used to collect statistics on illegal activities, however this system had to be abandoned. The re-launching of such a system is currently on the agenda, when the question of the very scarce or absent equipment (GPS, computers, radios) is solved. Annual reports of INECN are not very detailed until now as they are mainly made of a succession of tables. The production in the near future of more informative reports including analyses is also on the agenda.

For illegal cuttings in protected areas, the most common penalty is a settlement fine ("amende transactionnelle"). If the offender refuses to pay, the case might be brought to the tribunal (where the fine sentence would be confirmed) but these are rare cases. Court cases concerning protected areas represent about 2 cases per national park per year and mostly relate to land tenure problems along the boundaries (forest clearing and farming), sometimes to poaching, apparently not to logging (source: INECN). Ordinary loggers would not venture into logging of mahogany in protected areas and a vehicle transporting such wood would be immediately seized. Some sources indicate that such activity is limited to people benefiting from a protection from some higher authority and in that case the wood is transported, stored and sold secretly.

Forest law enforcement regarding open areas:

Since 2000, a battle has been fought by the forest administration and the government to control the abuses of Provincial and Commune authorities who used to allocate public wooded land to private people for conversion to agriculture. This has been tackled through the enacting of the new environment law (2000), then the enacting of the new land tenure law (2011) and currently the revision of the forest law, all introducing safety stipulations against this problem. This policy has been strengthened by punishment measures taken against Province Governors or Commune Administrators infringing these rules. A number of them have been dismissed and this improvement continues. Nevertheless, some stakeholders deplore that these measures are sometimes taken belatedly.

Technically speaking, according to the forest law of 1985, the agents of the forest administration (up to and including the Forestry Officers of Communes) are also “Judicial Police Officers with limited competence”, so that they are entitled to arrest offenders to the forest legislation, produce certified reports, make seizures and prosecute these offenders. Nevertheless, the officers of the forest administration at Province and Commune level comment that they have little real authority and find it quite difficult to engage in law enforcement. This is due to the fact that among other things they do not have distinctive or supporting garments like uniforms or, more simply, professional cards. As a consequence, the number of certified reports they produce is actually small. They also indicate that the controls carried out by the police are not sufficiently efficient either. In most cases they have no feedback from the police on the outcomes of the controls of the transport of wood products (number of cases of infractions, settlement applied). Sometimes, they receive a phone call from a Hill chief (local authority; Chef de Colline) to report on a case, but they do not have the transport means to go to the site, so in that case they ask the local authority to process the case, which results in a fine being paid directly to the Commune or Hill authority.

Imprisonment is a possibility offered by the forest law as an alternative to fines. In reality it is sometimes applied for bushfires but it is never applied for illegal logging. The most common court cases related to forestry concern arson fires. However, the officers of the decentralized forest administration regret that often the offenders are not condemned and are released after only a few days.

OBR is aware of some illegal export and import of sawn timber along the Tanzanian border but does not have the human and logistical resources to prevent it. The same applies to the illegal import of sawn wood from D.R. Congo north of Bujumbura. The degree of collaboration between OBR and the navy which is present on Lake Tanganyika is not ascertained.

5.9 Information and Monitoring Systems

See point 5.4 above.

5.10 Certification

There are currently no certified forestry operations in Burundi. Understandably, national standards have not been developed.

5.11 Transparency in the Sector

Transparency in forest governance is not very developed but this seems to result more from a weakness in the ability and habit to communicate than from an intention to hide certain actions and decisions. For example, the web site of forest institutions does not publish regulations in a systematic and comprehensive way and many sections of these sites are empty or not functioning.

A certain lack of transparency has been observed regarding the allocation of cutting permits in State woodlands according to the procedure most commonly in use (see paragraph 4.1).

Another example is the unpublished suspension of the issuance of cutting permits for young Eucalyptus poles, without a formal publication of a ban. In a way it can be seen as a certain lack of transparency which is not ideal. But from another point of view it can be seen as a sound measure of management of the resources: there is no harm if it is fairly applied (that is, for everyone). The same can be said about the procedure to export wood products, which is not well-known, not advertised, and tacitly aims at preventing a loss of resources from Burundi where there is a shortage. No complaint has been heard from civil society or private stakeholders about these aspects during the fact finding mission.

The administration in general in Burundi has a weakness as regards the publication of measures, so that some of them are rumours difficult to check: is such and such measure official or not? The case of the Police of the Environment (see paragraph 4.3) is illustrative. Some governmental stakeholders say it still exists, while others, very much concerned, say it has been dissolved recently. This kind of uncertainty could be maintained intentionally or it can also result from a real problem of poor communication within governmental services and towards the public.

5.12 FLEGT activities to date

Taken as a whole, the concepts of improved forest governance, forest law enforcement and legal wood trade (AFLEG, FLEGT) have been on the agenda for several years in Burundi. Indeed, the country has taken part to these discussions and processes under different umbrellas or with different support sources (EAC, COMIFAC, CARPE/IUCN, FAO ACP-FLEGT Support Programme). In particular, the following meetings have taken place: meeting in Nairobi in 2008 to discuss the preparation of a FLEGT action Plan for the 5 countries of the East African Community, international workshop on FLEGT in the Great Lakes Region in 2010 in Bujumbura (FAO, 2010a). This Great Lakes workshop in 2010 was an important benchmark as it offered an opportunity of dialogue between the countries concerned.

As regards more precisely the FAO ACP-FLEGT Support Programme, it funds the Project to support the improvement of the legislations regulating the transboundary wood value chains in the Great Lakes countries (Burundi, Rwanda, Uganda, D.R. Congo). The general objective of this project is to give substance to the recommendations of the 2010 regional workshop in Bujumbura. As a result, the study of NDONSE (2012) on wood products and stakeholders of the national and transboundary wood value chains concerning Burundi has been produced.

The FAO ACP-FLEGT Support Programme also funds the support project to the local initiatives of communities adjacent to Monge forest. It is implemented by the local NGO Synergie du Peuple pour l'Encadrement Agro-Pastoral et la Lutte contre la Pauvreté SPEAP. An external field evaluation of such a project, even brief, would be useful. The real impact of such interventions, which are normally very useful, is questionable if they remain isolated projects implemented for short periods like one year. Some external technical assistance to the national NGOs who implement them could also be useful to strengthen these initiatives.

5.13 REDD+

The only project comprising a REDD component currently discussed is the one that ERA, ACVE and FDMR have prepared to protect the forest of Kibira National Park (see paragraph 4.3).

6. The fuelwood market

About 95% of rural households use fuelwood and 80% of the urban population use charcoal for cooking purposes. About 95% of the energy needs of the country are covered by fuelwood products while electricity and fossil fuels represent only about 5% (NDONSE, 2012; BARARWANDIKA & NINDORERA, 2008).

As a rule, traditional earth kilns are used everywhere to produce charcoal. Only some groups of beneficiaries of the SEW project of IFDC have been trained in the use of improved kilns offering a better processing ratio.

In 2011 the SEW project of IFDC has conducted a survey of the flows of charcoal and fuelwood entering the capital Bujumbura. The study analyses the regions of origin of this fuelwood and its destinations in town, the quantities, the prices and the transport means (IFDC, 2012).

As the fuelwood value chain is very much linked to the timber value chain, they are discussed together in paragraph 6, hereafter.

7. Forest utilization

As explained in paragraphs 2 and 4.1, practically all natural forests and natural woodlands are set aside as protected areas for conservation. Therefore, practically all the national production of wood has to come from forest plantations. As suggested in the previous paragraphs, apart from illegal cuttings, it is mainly during the last years that public woodlands have started to produce wood products in a controlled way. Therefore, private woodlands remain the main suppliers of the country. Among them, the micro-plantations are extremely important to rural livelihoods because according to GAHENGERI & NDIHOKUBWAYO (2011) they currently supply more than 97% of forest products.

A limited set of raw or semi-processed wood products are produced from the woodlands (plantations) of Burundi and traded across the country, and they are the ones mentioned in the forest regulations. Among roundwood products, "logs" are hardly ever transported and traded as there are no real sawmills: the bulk is made of poles. These standard wood products are listed in **Table 2.** Of course, given the demand in fuelwood products, there are never woodlands managed and harvested exclusively for the production of timber: part of the production of the stands is always for fuelwood, at least for local use.

Table 2 Standard wood products produced and traded in Burundi

Product	Name in French	Dimensions (average)	Main species
Fuelwood:			
stacked firewood	stères de bois de feu	m3 stacked wood	Eucalyptus, (*Grevillea sp*)
charcoal in sacks	charbon de bois	35 kg / sack	Eucalyptus
Round wood / service wood:			
thin poles	perche	big diameter 0.08 m x Length 5 m	Eucalyptus
poles (for electricity transport, for construction of warehouses, etc.)	poteau	big diameter 0.22 m x Length 12 m	Eucalyptus
Sawn timber:			
planks	planches	(0.03 x 0.19 x 4.00) m3	*Grevillea*, coniferous sp, Eucalyptus
beams (thick planks)	madriers	(0.075 x 0.15 x 4.00) m3	*Grevillea*, coniferous sp, Eucalyptus

Notes: Poles have a range of dimensions, sawn wood products do not always have standardized dimensions.

The vital question of the balance between the productive resources and the needs of wood of the country:

In an attempt at determining the degree of shortage or surplus of wood in Burundi, a few studies in the last decades have presented an estimate of the national wood consumption (actual harvest and use) on the one hand and the national potential wood production (growth of the harvestable woodlands) on the other hand, to compare both. As regards the first of these two parameters, a plausible, but not accurate, estimate of the level of annual consumption of wood in Burundi is given in **Table 3**, based on figures from NDABIRORERE (1999) and NDUWAMUNGU (2011). It considers the total population of Burundi (8.5 million inhabitants in 2010) and a rough estimate of the consumption per inhabitant for the main types of wood products, derived from various field surveys.

Table 3 Tentative estimate of the national annual consumption of the main wood products:

Type of product	Per capita annual consumption	Total annual consumption (RWE volume)
Sawn wood	0,02 m3 / inhab. / year (real volume)	310,000 m3 / year
Poles (industrial and domestic)	0,085 m3 / inhab. / year	722,000 m3 / year
Fuelwood (firewood and charcoal)	0,8 m3 / inhab. / year (RWE volume)	6,800,000 m3 / year
Total		**7,832,000 m3 / year**

Notes: the per capita annual consumption of fuelwood is an average value for firewood and charcoal users (therefore it integrates the influence of the respective efficiency of cooking stoves).

For these main types of products, it is actually difficult to present an average and reliable per capita consumption figure as (i) levels of consumption vary greatly according to the shortage perceived (fuelwood in town or in wooded rural areas e.g.), (ii) they often come from a mixture of domestic uses (household firewood, poles for rural construction e.g.) and commercial / “industrial” uses, which would require distinct surveys to measure them. In particular, the following “industrial” uses are very important in Burundi and would be worth specific and updated surveys:

- (thin) poles for construction scaffoldings;
- poles for facilities to process coffee (washing);
- poles for electricity transport (see Wood Perfect data in paragraph 7);
- firewood for tea factories (6 factories with tea plantation in Burundi, see paragraph 4.3);
- firewood for brick making (+ firewood to make tiles + firewood to make lime). In some regions of the country, impressive amounts of brick cooking kilns are active, especially since the booming of the construction sector in the recent post-conflict period. One observation made is that in these areas, heaps of uprooted stumps of eucalyptus are for sale along the roads. Uprooting is usually an indicator of wood shortage, in this case it might only be driven by the fact that these stumps are the most convenient fuel for brick kilns. This should be further investigated, together with the real impact of this practice: uprooting of eucalyptus stumps, which otherwise coppice, is synonymous of deforestation, except when it is followed by replanting with good seedling material (in that case it is even a valuable management practice, because it effectively replaces aging stumps by more productive material).

As regards the second of the two parameters to determine the balance or shortage of wood, the potential production is estimated from the area of woodlands of the different types and a mean annual increment for each type. However, as only very poor estimates of the latter two parameters are available (see paragraph 2), and furthermore the production of scattered agro-forestry trees is unknown, such an estimate of the production is actually of little use. Therefore, based on the data currently available, it is not possible to demonstrate with figures the balance or imbalance between the growth of the woody resources and the national consumption.

However, a series of indicators show that there is a shortage of wood (threatening to induce overharvesting and gradual depletion of the resource base). Indeed, all private operators processing wood who have been interviewed observe that it is more and more difficult to find available wood, and for many of them, especially the ones requiring a certain quality (size, etc.), it is now their first constraint. As few of the latter report big difficulties in obtaining the permits and authorizations, this is a sign of imbalance, inducing a risk of overharvesting, shortage or increased imports.

Furthermore, the price of wood products has been on a constant increase the last years. In particular, the price of a charcoal sack in Bujumbura has risen from 10,000 BIF in 2009 to 28,000 BIF in 2012 (NDONSE, 2012). This reveals depletion and shortage of the resource but to a large extent it is also caused by the stricter regulations introduced and a better law enforcement. For example, before 2009 a lot of charcoal was produced illegally in Kibira National Park but this has been brought under better control. NDUWAMUNGU (2011) presents similar trends: according to this author, from the period 2004-2006 to the period 2007-2010, the price of the wood was multiplied by 1.3 to 1.7 according to the type of product (sawn wood, poles and fuelwood) (this increase is a bit smaller if the price is converted in US$/m3) (the figures provided by this author concern the price of standing wood fixed by the Department of Forests for the logging in public woodlands but this is based on the price on the markets in Bujumbura).

As a consequence of the more difficult supply of charcoal to Bujumbura and increased price of this commodity, many of the miscellaneous vehicles entering the capital bring a few sacks of charcoal purchased in rural areas in addition to the people or goods they transport. This represents significant amounts which are transported in an informal way and are more difficult to control (see paragraph 4.4 and 4.5).

The question of the proportion of the national production which is officially recorded:

As opposed to the above-mentioned potential production (growth) of the woody resources of Burundi, which remains largely unknown as explained above, the official (=recorded) national annual production of timber and fuelwood products is of interest in order to compare it to the likely national consumption (estimate of the total harvest) of these products (tentative figures of which are given in **Table 3**). **Table 10** in ***Annex 10*** is an attempt at such comparison. In this table, the recorded national annual production from 2005 to 2011 is taken from NDONSE (2012) (in that study, these data are presented as "Logged wood from 2005 to 2011: flow of wood products and cutting permits, source Department of Forests"). If these figures effectively present the recorded national annual production, **Table 10** suggests that only a very small proportion (about 1%) of all wood products consumed have been officially produced (= formally marketed, somehow recorded (covered by a permit *e.g.*), captured by statistics), the rest being unreported production/harvest. This proportion is a bit higher for sawn timber (about 5%) and around 1% for round wood (poles) and fuelwood products (firewood and charcoal). This set of data also seems to indicate that this ratio of capture largely fluctuates according to the years, and this fluctuation is different according to the types of products. Besides, the decrease of the recorded production of fuelwood is unexplained. These very small proportions have to be analyzed with the following precautions. First, in theory the comparison could have been more refined if imports had been included in the calculation. But anyway they represent very small quantities (negligible) compared to the national consumption and the consumption figures presented in **Table 3** basically concern products from Burundi. More importantly, especially in the rural areas, a large proportion of fuelwood consumption, which represents the bulk of the national wood consumption, and some pole consumption, come from a local production which is not marketed, so that it is normal if it is not recorded and subject to the issuance of a permit. Finally, for some of the wood which appears as unrecorded from **Table 10**, cutting permits may actually have been issued, but it is the recording and compilation of these permits that may well have been defective (transmission to central level, etc.).

8. The Forest Industry Sector and Domestic Timber Market

The country does not have a forest / wood industry proper. Indeed, practically all operations of harvesting are done by hand and using manpower. Downstream processing is also mostly manual, apart from the use of electric machine tools in the carpentry workshops, which remain small scale activities. As a consequence, processing ratios are quite inefficient (TAUPIAC & NDAMAMA, 1987). Logging, marketing, transport and processing operators have been discussed above, mainly in point 4.3 describing the actors of the wood value chain.

There are no industrial sawmills. Some entrepreneurs involved in the first processing of timber in the woodlands use chainsaws for sawing the wood into planks. In Bujumbura a few saws stronger than the usual ones in carpentry workshops are used to divide beams (madriers) into planks (planches).

A few companies producing finished wood products with modern equipment are found in Bujumbura. The main ones are the following.

The large company GTS, which also imports and sells vehicles, generators, house and office equipment and metal furniture, has a workshop to make wooden furniture of good quality: high-end segment of furniture making in Burundi. It employs 300 staff altogether, among whom about 150 work for the wood furniture department. The wood material used is *Grevillea* and cypress wood from Burundi, MDF fibreboard imported by themselves from China and rarely hardwood imported from D.R. Congo. The first and foremost preoccupation of the company regarding this production of wooden furniture is to find wood of sufficient quality in Burundi (dry wood, wood of standard dimensions). As dry wood is almost impossible to find, the company has storing facilities to stockpile the wood for 2 years but these are too small. The company anticipates that in a few years, little or no wood they need will be available in Burundi and they will be obliged to reduce the wooden production or increase the use of hardwood from Congo, despite its high price, and increase the use of imported MDF.

The company Wood Perfect is specialized in the production of treated eucalyptus poles (length 16 or 11 m), mainly electric poles but also poles that can be used as pillars for buildings. The staff employed by the company varies according to the contracts between 15 and 80. The treatment is a pressure treatment applied on the logging site on green timber, using Tanalith C preservative (chromated copper arsenate product (CCA)). The capacity of treatment of the company is 30 poles per day. The timber is bought in Burundi, until 2010 in private woodlands, and now more and more in State woodlands of eucalyptus since these have started to be logged. The company logs, treats and transports the poles to the end-user. The main clients are the 2 State companies of electricity in Burundi, which order about 2,500 poles / year, fluctuating but on the increase. This national demand is supplied by Wood Perfect and another company FERAL, which uses another treatment technology. Recently Wood Perfect exported a few hundreds of poles to Rwanda but otherwise does not export, in spite of the orders it receives from this country and Kenya (insufficient availability of wood in Burundi). In 2010, the State companies of electricity also imported an additional 1,700 poles from Uganda. The company distinctly perceives a shrinking of the availability of suitable wood in Burundi. It is willing to purchase a few hundreds of hectares of land to produce their own eucalyptus but apparently has not found such unoccupied land to acquire.

Another company producing soap makes cardboard in Bujumbura for the packing of the soap.

9. The timber trade

9.1 Main facts

The following chart in **Figure 1**, derived from UN Comtrade data, summarises Burundi's trade in wood-based products for the period 2000-2011. It is followed by **Figure 2,** which is a map of the main flows of wood products.

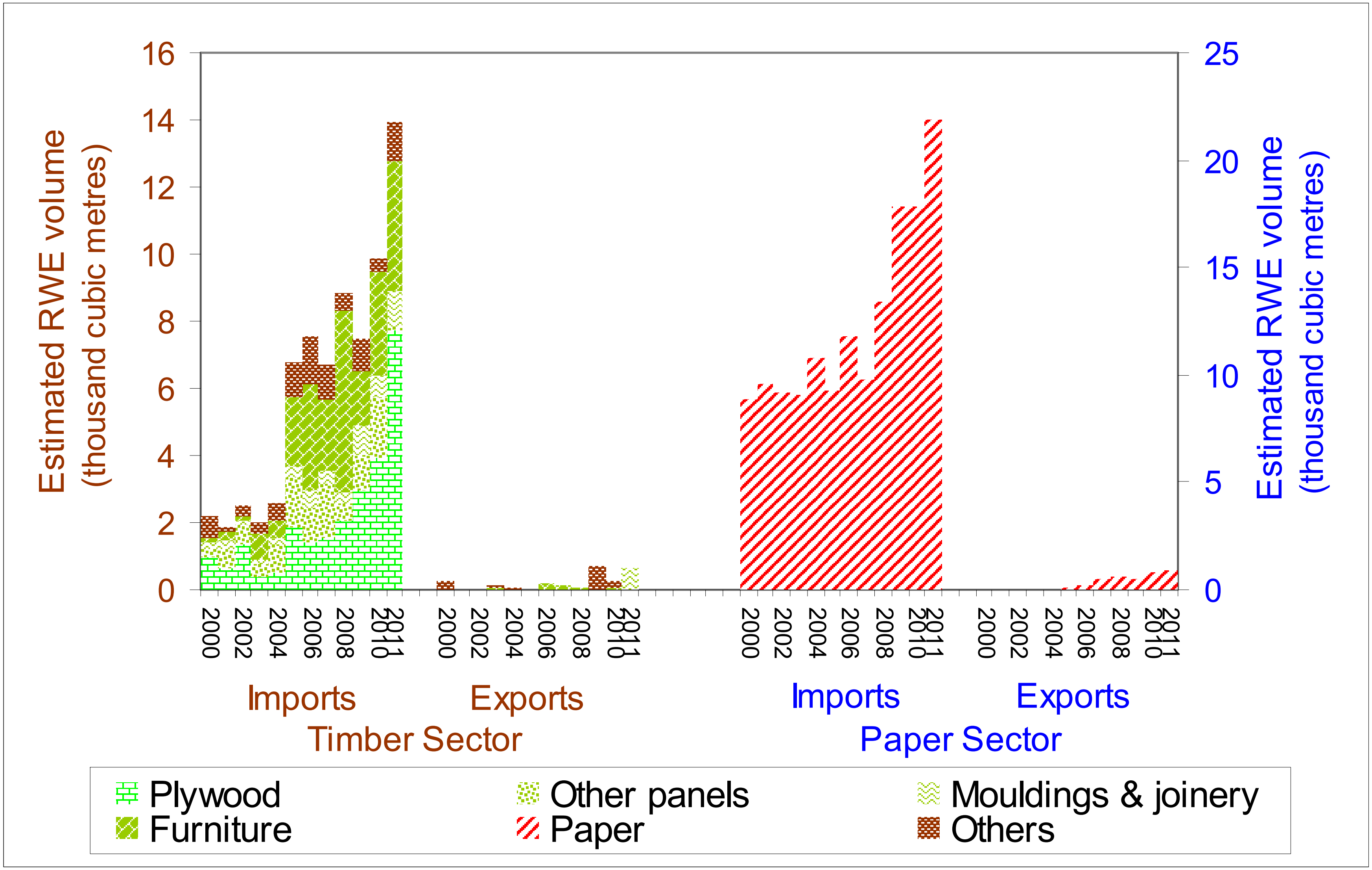

Figure 1 Burundi's trade in wood-based products (2000-2011, by product)

Source: based on UN Comtrade (see metadata in Annex 5), 2012

Note: data provided by the source on imports of paper sector products in 2009 seemed anomalous and have been revised in 2012.

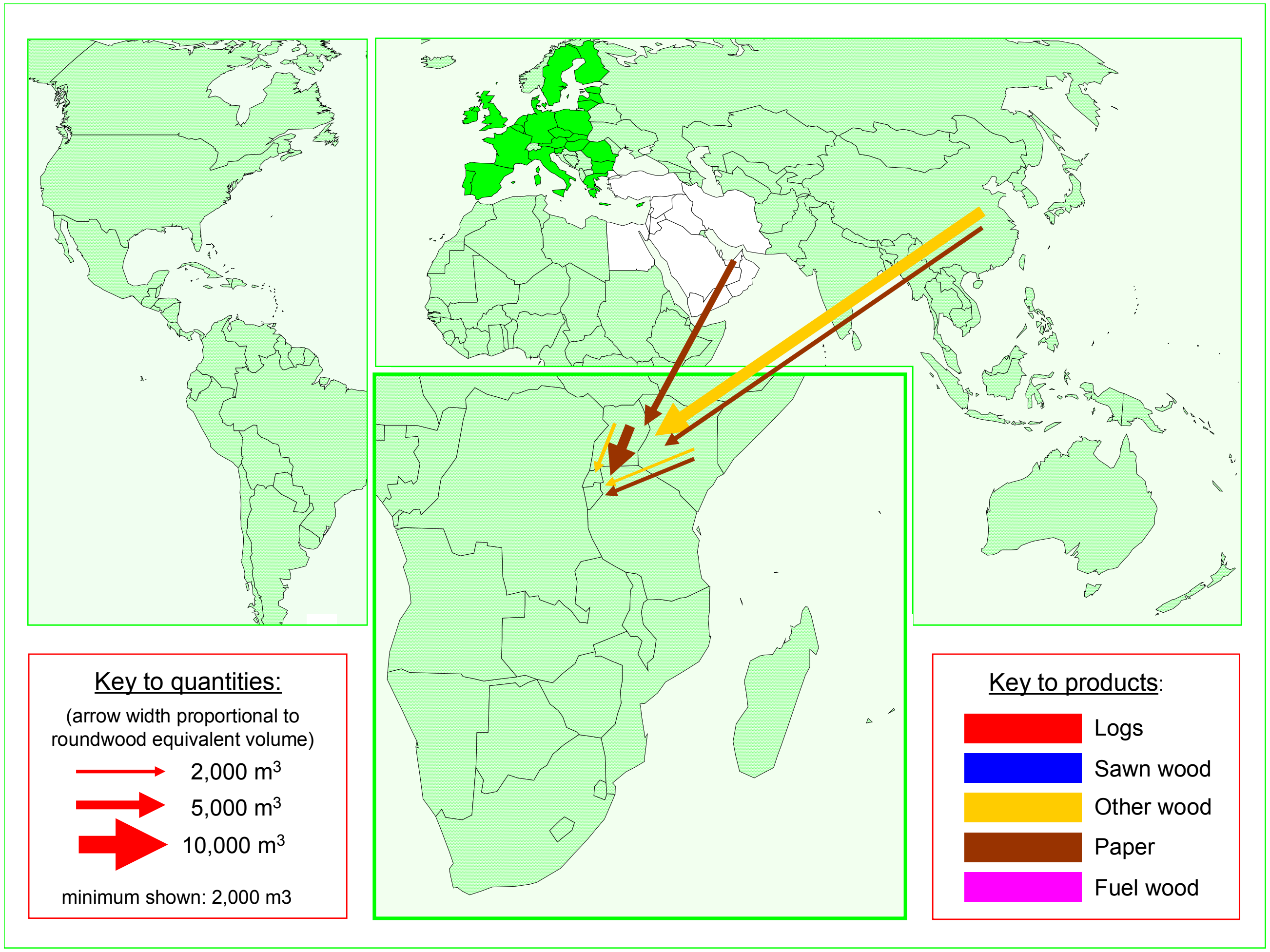

Figure 2 Map of the main flows of wood products concerning Burundi (2011)

(Estimated RWE. See metadata in Annex 5).

Source: based on UN Comtrade, 2012.

The main characteristics of the exchanges of wood products concerning Burundi are that exports are particularly small (about 1,500 m3 RWE in 2011) and imports are not big either (about 36,000 m3 RWE in 2011). Imports have increased from 2005 onwards. Exports of Burundi to EU-27 of all wood-based products, useful to consider when FLEGT perspectives are discussed, are nil. The national demand of sawn wood is mainly met by softwood produced in plantations in Burundi, the main species being *Grevillea robusta*, and eucalyptus (the part of coniferous timber, especially pine and cypress, has declined the last years since the logging of pine is banned and cypress is threatened by an insect). Hardly any softwood from plantations is imported as there is no surplus of these products within reach in any of the neighbouring countries). Conversely, Burundi does not produce hardwood so that some sawn hardwood is imported from D.R. Congo, and to a lesser extent from Tanzania. This import of hardwood remains marginal as the purchasing power in Burundi is low, and it is mostly illegal. The rest of the imports of wood-based products by Burundi are semi-processed or processed (panels, paper, furniture), as the country does not have a wood processing industry.

In the last decade, one of the main concerns as regards forest resources in the Great Lakes region has been illegal logging in eastern D.R. Congo for export to the east (Uganda, Rwanda, Burundi, Kenya, Tanzania and further), because of the scale and ecological impacts of this logging. A large number of studies have been conducted on this subject and numerous reports produced. In particular, timber flows from D.R. Congo across the borders of the aforementioned countries have been the subject of 3 studies before the present one in the last years: the study of Forests Monitor (2007) remains a reference (field surveys carried out); WHITE *et al*. (2012) (Burundi has been covered with less details and information on Burundi is less confirmed in that study); NDONSE (2012). Regarding recent results as far as Burundi is concerned, the data presented on imports and exports by NDONSE (2012) come from OBR, so that they are not different from the ones processed from the UN Comtrade database.

Therefore, the main current flows of wood products across the Burundian borders can be summarized as follows:

- No significant flows of roundwood, i.e. logs or poles (hardwoods or softwoods);
- D.R. Congo to Burundi (imports): limited amounts of sawn hardwood, mostly illegal, hardly anything via Rwanda;
- D.R. Congo to Tanzania or to Rwanda via Burundi (transit): no evidence found of transit of sawn hardwood;
- Burundi to D.R. Congo (re-exports): small amounts of plywood;
- Tanzania to Burundi (imports): evidence found of exclusively illegal imports of sawn hardwood. Main source of manufactured products coming from Dar-es-Salaam (paper, panels, furniture, etc.), either by truck or by train to Kigoma then by boat via lake Tanganyika. Very small amounts of charcoal imported by the drivers of ordinary trucks, small amounts smuggled across the border;
- Burundi to Tanzania (exports): small counter-flow of mostly illegal exports of sawn softwood (pine);
- Rwanda to Burundi (transit and imports): other source of some manufactured products (paper, panels, furniture, etc.);
- Burundi to Rwanda (net exports): opportunistic, small scale and local flows of wood products, mainly towards Rwanda because forest law enforcement is stricter in Rwanda.

OBR could not supply data on flows of wood in transit.

The map of **Figure 3** in ***Annex 3*** shows the main roads of Burundi and the distribution of border posts. More details on the official exports and imports of wood products can be found in the next paragraphs and in ***Annex 5*** (**Figures 5 -10** and **Tables 5, 6, 7**). Additional details on these flows can be found in the above-mentioned studies, in particular in NDONSE (2012).

9.2 Exports

Exports of all wood-based products, including paper products, by Burundi are close to zero (less than 1,500 m3 RWE / year according to the UN Comtrade data). These are mainly re- exported paper. There are no recorded exports of fuelwood products.

According to NDONSE (2012), the OBR data show that most exporters of timber products in recent years have been Burundian traders who were harvesting pine plantations or were collecting sawn pine wood or sawn eucalyptus wood (5 names who have been exporting these products to Tanzania, Uganda and Rwanda + UNHCR who has exported some forest products to D.R. Congo).

According to a wood dealer / transporter interviewed, there is a strong demand for sawn timber in Tanzania (regular orders), especially for pine but the export of this species is now forbidden. There is a demand abroad (Tanzania, Uganda, Rwanda; even Chinese buyers enquire) for exports of eucalyptus and other species but the production in Burundi is not sufficient.

Some sawn pine timber is exported illegally towards Tanzania, where the price paid for these products is higher. Some of this pine wood smuggled abroad is timber logged by the local communities who co-manage the State woodland of Vyanda.

9.3 Imports

The series of UN Comtrade data on Burundi indicate that imports have increased since 2000, especially since 2005. Imports of all wood-based products evolved from 11,000 to 36,000 m3 RWE / year. Among these, paper imports represent about 80 to 70%: from 9,000 to 22,000 m3 RWE / year. As regards timber products imported, they are processed. Officially Burundi does not seem to import logs and sawn wood (see below about smuggling). So these imports of timber products seem to concern mainly two types of products: plywood (1,000 to 7,000 m3 RWE / year) and furniture (between 0 and 5,000 m3 RWE / year according to the years). The rest of timber product imports are made of other panels, joinery and other products. Paper imported by Burundi used to come from EU-27 from 2000 to 2003, then it has been imported from the East-African neighboring countries and from the rest of the world. Timber products imported come from the East-African neighboring countries, from China and from the rest of the world. There are no recorded imports of fuelwood products.

According to NDONSE (2012), the OBR data indicate four main importers of timber products (REGIDESO, Ndikumagenge Hilaire, Sun Safari Club and Tanganyika Business Company). This concerns mainly semi-processed or processed products from Uganda or Kenya: panels, planks, doors, etc.

A few wood dealers of the market of Jabe claim that their hardwood from D.R. Congo is imported legally by the lake through the customs post of Rumonge harbour: according to them there is more of this wood available towards the south (closer to sources inside D.R. Congo). According to EPB, a fluctuating amount of sawn hardwood is legally imported through Bujumbura harbour (transported in wooden boats): between 0 and 100 t/year.

Apart from this, most of the imports of hardwood from natural forests in D.R. Congo to Burundi are illegal, mainly because this wood is already expensive in Congo and the dealers wish to avoid the various taxes that they would have to pay if this wood was declared at the border post (V.A.T., import duty, etc.). As it is not imported legally, this wood is not openly sold in the markets of Bujumbura. It is stored in the yards and workshops of wood dealers around the Jabe market, also for security purposes given its value. This storing is inconspicuous but not very much hidden either. These imports of hardwood do not concern large amounts as indicated by the fact that these stocks are most of the time old, a sign that the wood is difficult to sell. Indeed the Congolese wood is about 4 times as expensive as the Burundian wood.

Sawn hardwood imported from D.R. Congo is of 3 main species:

(i) Libuyu, which is the regional commercial name for a group of mahogany species of eastern Congo, mainly of the genus *Entandrophragma* (some may come from montane forest which follows the west of lake Tanganyika, umuyove; some may come from transition or lowland rainforest further west) but maybe also of the genus *Khaya*.

(ii) Umusave (*Markhamia lutea*), a tree of montane forests also present in Burundi inside protected areas.

(iii) Muvula (*Milicia excelsa*), a tree of rainforests of the Congo basin (international commercial name Iroko).

What is at stake in particular is the presence of a montane forest of very high conservation value in the Congolese highlands on the western side of lake Tanganyika at the same latitude as Burundi, Itombwe forest. But no accurate information could be collected during the fact finding mission on the current areas of origin in D.R. Congo of the imported timber.

According to the enquiries during the fact finding mission, hardwood from Congo is smuggled into Burundi through the following routes:

- across the lake to various places along the Burundian banks;
- through the smaller border post of Gatumba (north of the main post of Gatumba), which is not manned at night;
- further north across the Rusizi river south of Cibitoke.

According to the various sources consulted, the timber flows from DR Congo to the east, including Burundi, have decreased compared to about 10 years ago. This reduction is caused by a combination of factors, the main ones being the multiplication of various / informal taxes paid on the Congolese side on the way between the forest and the border and apparently a gradual depletion of the forests, the most accessible ones first. Indeed, logging in eastern D.R. Congo is not industrial (wood sawn manually or with chain saws and extracted from the forest without large vehicles) so that the forests near the existing road network are harvested excessively and eventually emptied).

Sawn indigenous hardwood and charcoal are imported illegally from Tanzania to the eastern provinces of Burundi, especially the south-eastern ones. It comes from miombo woodlands and comprises a mixture of species such as *Pterocarpus angolensis* (umuninga). But these are not big quantities (the presence of this flow is confirmed by the wood value chain studies of the master plans of land use of these Provinces ("Schémas Provinciaux d'Aménagement du Territoire")). The quantities are difficult to assess without a survey because generally speaking the border is porous (several crossing points exist beside regular border posts). Most of it is illegally cut and imported by Burundian loggers, the rest by Tanzanians. This charcoal is consumed in those Provinces. The sawn timber is partly used by the small carpenters of the border Provinces (Moso plain) and partly transported to Bujumbura, often hidden in the trucks under food commodities (no reports available on the quantities). This would is rarely found in Bujumbura and the supply is irregular, it is also expensive compared to the softwood produced in Burundi.

10. Trends and key issues

If current trends go on, with the growth of the economy and the growth of the population, imports will continue to increase, so that exports are not likely to grow significantly (as they would ultimately concern partly the same products). A kind of race will go on between the increase of the demand and risk of worsening of the shortage on the one hand and the hopefully continued increase of forest governance, public afforestation, forest management and private investment in forestry on the other hand.

11. Anecdotal information on volumes of undocumented and illegal harvesting and trade, major types of illegal logging cases

11.1 Anecdotal information on volumes of undocumented and illegal harvesting and trade

See the estimation of the unofficial "production" in paragraph 6.

11.2 Main types of illegal logging cases

The main current threats against forest resources have been reviewed in paragraph 2 and most of them generate wood products that are illegal. We continue the discussion here from the point of view of the types of illegalities. These main infractions to the forest / timber regulations are:

(a) Encroachment on woodlands and forest clearing for agricultural purposes and sometimes settlements:

– granting and transfer of wooded land belonging to the State by administrative authorities: thanks to the crackdown on Governors or Administrators infringing the laws during the last years, currently these cases of granting of wooded land have ceased but cases of irregular cuttings promoted by such authorities still occur: see sixth and seventh paragraph of point (c) below (NDONSE, 2012).

(b) Mining in forest protected areas, fires in woodlands (see paragraph 2 and **Table 8** in ***Annex 6***);

(c) Various forms of illegal logging:

– Logging in protected areas;

– Cutting of protected species: most tree species listed in the annexes of the law of 2011 on the trade of wild fauna and flora are found in protected areas so that this case is mostly related to the previous one. Following the introduction of the Ministerial Order of 2009 forbidding the logging of sawn products from pine, the demand for these products remains very high. During the fact-finding mission, pine sawn wood was seen for sale in the Jabe market (these lots represented a minority of the lots though);

– Use of bribery to obtain a cutting permit is inadvisable (BARARWANDIKA & NINDORERA, 2008);

– Logging with a permit but without proceeding with the compulsory replanting: widespread;

– Cutting (= stealing) in public woodlands (especially State woodlands) with no permit: widespread;

– Cutting by Commune authorities in State woodlands: some problems of that sort are mentioned by different sources. A common case is the logging of line plantations of trees along the main roads (which normally belong to the State, for which a permit from the forest administration would be required) by Commune Authorities to use or sell the wood (BARARWANDIKA & NINDORERA, 2008 ; NDONSE, 2012) ;

– Illegal cutting by Commune authorities in Commune woodlands (= with no permit or without respecting the procedure): frequent until recently, combated by the central administration;

– Cutting in private woodlands by the owner with no permit: very frequent. A majority of private owners harvest and sell the wood without applying for a cutting permit;

– Cutting (= stealing) in private woodlands: very rare;

– Cutting outside authorized sites, beyond authorized volumes or beyond the allowed timeframe. In State woodlands, the logging of higher volumes than what is allowed in the permit is often reported (clear cutting instead of thinning can occur e.g.). This is made easier by the absence of verification on the site by the forest administration after the logging in many cases ("récolement") (BARARWANDIKA & NINDORERA, 2008). In private woodlands, clear cutting instead of selective cutting, and generally speaking over-harvesting, also occurs and is a real problem;

– Mixing of planks of hardwood from protected areas with planks of softwood covered by a permit is a mechanism used;

(d) infractions to the regulations on wood transport:

– transport of wood with no transport authorization: quite common. The drivers use diverted itineraries, they avoid the checkpoints at the entry of Bujumbura, they travel at night. If they are controlled, they try to reach an agreement with the agent. For a transport within a Commune, the wood dealers usually avoid purchasing a transport authorization;

– over-use (re-cycling) of a transport authorization: this practice is not much documented as these documents do not indicate very restricting specifications;

(e) illegal import or export of wood products:

- Smuggling of hardwood timber from D.R. Congo or Tanzania: see paragraph 8.3;
- Smuggling of softwood from Burundi to Tanzania or Rwanda: see paragraph 8.2;
- Sawn hardwood from natural forests of D.R. Congo imported as eucalyptus timber to pay less import duties: regularly reported;
- Export of pine sawn wood hidden under a load of eucalyptus sawn wood;
- Under-declaration of the value and amounts of imported wood products: common. Sometimes even: false declaration (other products declared e.g.).

12. Stakeholder perceptions of illegal logging, challenges and the way forward

12.1 Stakeholder perceptions of illegal logging

The point of view of the different stakeholders on forestry issues and illegal logging in particular has been presented above, especially in paragraphs 4.3 (other actors), 7 (processing industry) and 6 (forest utilization). On the whole, illegal logging itself is not very high on the agenda and there is no intense debate on it. But the large majority of stakeholders are very preoccupied by the increasing shortage of wood.

12.2 Challenges and the way forward

After obtaining a cutting permit and logging, the beneficiaries of the permit (private owners) or local administrations might convert the land to agriculture. To avoid this, it will always be difficult to carry out the controls which are necessary to enforce the forest legislation on the thousands of small woodlots which exist across the country. That is why it is also essential to make forestry a more attractive economic activity in itself by developing a forest taxation which acts as an incentive rather than a deterrent to wood production (it is hoped that the new forest law will do this) and by continuing to combat deforestation in protected areas which otherwise downgrades the price of the wood.

As to public woodlands, in the search for ways to achieve their sustainable use, the question of the viability of the systems introduced is central, together with the question of the costs to set up these systems on a large scale. It seems that given its foreseeable resources, the State will need to transfer ("sub-contract") part of the management of its woodlands to other entities (see paragraph 4.1, co-management). Its role then shifts towards the supervision of the correct implementation of the co-management contracts. Two orientations are possible regarding these entities: co-management by local communities (typical "community forestry" or "social forestry") and co-management by private operators (these are supposed to be or to become professionals in forestry operations). The first orientation has been tested the last years, in fact to an incipient degree only, and a kind of drift towards the second orientation has been observed (sub-contracting of some operations by the communities to private operators). BARARWANDIKA & NINDORERA (2008) mention that around 1995 a pioneer system of management of State woodlands was tested in the Ruyigi Province, which relates to the second orientation. It was a simple mechanism whereby the State contracted a private operator to manage the woodlands: this operator had the freedom to use the products as long as he implemented the management plan agreed. It is likely that a certain combination of the two orientations could become an affordable and viable system in the conditions of Burundi. A balance needs to be found to satisfy the interests of the different stakeholders: the forest administration, Communes, local communities, professional private operators. These systems should be further evaluated but it is only by more relentlessly testing them in real conditions that a viable system will emerge.

13. Conclusions and Recommendations

Genuine efforts are developed to improve forest governance little by little and progress is tangible but this process remains very fragile.

As to FLEGT recommendations, they should be seen in the wider scope of recommendations for the whole forestry sector and as a comprehensive process (isolated actions will probably have a temporary and limited impact):

- totally stop deforestation in natural forests (INECN is currently supported for that by various international technical and financial partners): monitor the process and check that it is effective. A useful element as part of that process would be to carry out a proper mapping of forest resources (both protected areas and open areas), now that the situation is getting under control;
- increase the awareness of the importance of forest resources among the civil administrations and security forces and promote a better collaboration of these with the forest administration and INECN;
- prompt an increase of the funding of the forest administration by the State so that an effective decentralized / local forest service emerges (with on the one hand a forest control / Legality Verification System component and on the other hand a technical component (forest management activities, forest extension)). Based on this, improve the systems of management of information (database, information flows) within the forest administration (design better systems, but keep them simple and robust, especially in terms of updating requirements, otherwise they will not be viable);
- support the process of delegation of the management of public woodlands to local communities, under the control of the State. Also support the implementation, monitoring and renewal of management plans. And sustain the technical support;
- when the new forest law is enacted, observe and analyze its application (how it works, possible weak points or difficulties) and propose correction measures or accompanying measures if needed. If this aspect is not already taken on by certain cooperation agencies, it will be useful to support the dissemination of this new law: dissemination in Kirundi language, campaigns of information reaching the operators of the wood value chain and local communities, training on the application of this law, especially among other administrations than the forest administration (decentralized authorities, tribunals, police, customs if relevant, etc.);
- as the profile of the country remains somewhat unstable with a State not as firmly established as would be desired, it is advised to continue the strengthening of the civil society involved in forestry: training, etc.

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Annexes

Annex 1 - Organization of the field mission

The present country report presents the results of the desk study carried out in July and August and the mission in Burundi which has taken place from 7 to 21 September 2012 (Nicolas Blondel, international expert and Eloge Muhire, local expert). The mission schedule and the list of people met are presented in ***Annex 2***.

The work has been organized as follows:

- meeting of stakeholders in the capital. Objective: to obtain an in depth understanding on the situation and roles. Visits to the wood markets of Bujumbura and to the harbour;
- field tour in the country with the following objectives:
  - visit to the main border crossing points. These are the western "gates" on the DR Congo /Lake Tanganyika side (mainly other harbours and Gatumba), the border posts with Rwanda to the north and different border posts with Tanzania to the east and south, including on Lake Tanganyika;
  - meetings with decentralized forestry authorities (Regions, Provinces, Communes);
  - visits and meetings in Kibira National Park, several forest nature reserves and wood processing sites of the country;
  - visit to Gitega to meet the institution in charge of protected areas.
- complementary meetings, visits, collection of data and analysis in the capital.

The main difficulties met were to obtain appointments in some administrations, especially in the forest administration, but also with private companies of the wood value chain. Another difficulty encountered to study the import and export procedures concerning wood products has been the fact that these products represent in Burundi a very minor part of the international exchanges of all products, so that many interviewees alleged that they had no information or provided inaccurate information. It was also difficult to find concrete files to consult that would contain whole procedures concerning wood (permit issuance, exports). Many times, the quality of the available information also proved to be of low quality: inaccuracies, contradictions, gaps.

Before and after the field mission, most of the work of compilation, processing and displaying of the statistics on timber imports and exports (mainly from the UN Comtrade database) has been carried out by James E. Hewitt, international expert.

Annex 2 - List of people met – Mission schedule

N°	Name	Title / Position / Organisation / Institution
1	Antoinette MAKUMI	Ministère de l'Eau, de l'Environnement, de l'Aménagement du Territoire et de l'Urbanisme, Directeur Général des Forêts et de l'Environnement.
2	Sylvestre NDONSE	Direction Générale des Forêts et de l'Environnement, Conseiller. Ex-Directeur des Forêts
3	Claire KAYOBEKE	Département des Forêts, Directeur des Forêts a.i ; Chef de Service Développement et Extension des Ressources Forestières
4	Jean-Bosco RIZIKI	Département des Forêts, Service Aménagement et Gestion des Ressources Forestières, Chef de Cellule Valorisation du Bois
5	Joseph NIYONGABO	Département des Forêts, Inspecteur Régional des Forêts, Région Sud
6	Philippe NTINESHWA	Département des Forêts, Inspecteur Provincial des Forêts, Province de Rutana
7	Edmond MINANI	Département des Forêts, Forestier Communal, Province de Rutana
8	Jean MUGISHAWIMANA	Institut National pour l'Environnement et la Conservation de la Nature INECN, Directeur Général a.i., Directeur Technique
9	Damien NINDORERA	INECN, Conseiller Juridique, Chef du Service Contentieux
10	Léonidas BAMBARA	INECN, Chef du Service Surveillance
11	Jean Claude HAKIZIMANA	INECN, Chef du Parc National de la Kibira
12	Evariste BUVYIRUKE	INECN, Chef du Parc National de la Ruvubu
13	Léonidas NZIGIYIMPA	INECN, Chef de la Réserve Naturelle Forestière de Bururi
14	Jérôme NISHISHIKALE	INECN, Réserve Naturelle Forestière de Bururi, Chef de Secteur
15	Deus Dedit NIBURANA	INECN, Parc National de la Kibira, Chef de Secteur de Teza
16	Jean-Berghmans NTIRAMPEBA	Office Burundais des Recettes OBR, Directeur des Services Douaniers
17	Marie Goreth BIZINDAVYI	Office Burundais des Recettes OBR, Chef de Service Frontière et Conduite en Douane
18	Chris NSABIYUMVA	Office Burundais des Recettes OBR, Service Statistique, Chargé de la Modernisation des Douanes
19	Imelde GAHIRO	Office Burundais des Recettes OBR, Chargée de la Législation et Facilitation du Commerce
20	Berghmans NSHIMIRIMANA	OBR Gatumba, Chef de Poste - Vérificateur
21	Elocadie NDUWIMANA	OBR Gatumba, Receveur des Douanes
22	Diomède NGEZAHAYO	OBR Kobero, Chef de Bureau
23	Déo HAZIYO	OBR Kobero, Chargé du Transit
24	Jean-Pierre BAREGANA	OBR Gasenyi I, Chef de Poste
25	Richard NDAYISABA	OBR Kanyaru-Haut, Chef de Poste
26	Aimable SIBOMANA	OBR Mabanda, Chef de Poste
27	Emmanuel HARERIMANA	OBR Mabanda, Receveur des Douanes
28	Léonce CIZA	OBR Rumonge, Chef de Bureau
29	Bonaventure KIBWA	OBR Ruhwa, Receveur des Douanes
30	Anonyme	Police de l'Air, des Frontières et des Etrangers PAFE, Chef de Poste de Mugina
31	Anonyme	Police de l'Air, des Frontières et des Etrangers PAFE, Chef de Poste de Kabonga
32	Richard HATUNGIMANA	Exploitation du Port de Bujumbura EPB, Directeur de l'Exploitation a.i. et Chef du Service Etudes Economiques et Statistiques
33	Nestor HABONIMANA	Province de Rutana, Conseiller Economique du Gouverneur de Province
34	Déo NDAYIZIGIYE	Commune de Gihanga, Conseiller Technique de l'Administrateur de Commune
35	André NIYONKURU	Commune de Ngozi, Agronome
36	Didmond MVUKIYE	Direction Générale des Affaires Pénitentiaires DGAP

N°	Name	Title / Position / Organisation / Institution
37	Stephan FOX	Délégation de l'Union Européenne au Burundi, Section Développement Rural et Infrastructures, Chargé de Programmes Développement Rural
38	Jean-Marie COLLET	Coordinateur du Programme Post Conflit de Développement Rural PPCDR
39	Callixte MASABO	Directeur Technique du Programme Post Conflit de Développement Rural PPCDR
40	Marc VANDENHAUTE	FAO Rome, ACP-FLEGT Support Programme (by phone)
41	Apollinaire MASUGURU	FAO, Assistant au Représentant de la FAO au Burundi, Chargé de Programme
42	Dieudonné NDAGIGIMANA	PNUD, Projet Amélioration du système de gestion des aires protégées pour la conservation de la biodiversité au Burundi à travers l'engagement des parties prenantes, Expert National Parc National de la Ruvubu.
43	Albert MBONERANE	Action Ceinture Verte pour l'Environnement ACVE, Président
44	Dismas NDITABIRIYE	Action Ceinture Verte pour l'Environnement ACVE, Coordinateur
45	Bernard RUBARIKA	Fédération pour le Développement du Monde Rural FDMR, Président
46	Michel MASOZERA	Wildlife Conservation Society WCS, Rwanda - Burundi Program Director
47	Fidèle RUZIGANDEKWE	Wildlife Conservation Society WCS, Rwanda - Burundi Programme
48	Onesphore MASABO	Synergie du Peuple pour l'Encadrement Agro-Pastoral et la Lutte contre la Pauvreté SPEAP, Coordinateur du projet d'appui aux initiatives locales des communautés riveraines qui dépendent de la forêt de Monge (FAO / ACP-FLEGT Support Programme).
49	Francis NGENDAKURIYO	Entreprise GTS, Responsable Administration et Finances
50	Libère NITUNGA	Entreprise Wood-Perfect, Ingénieur énergéticien
51	Pascal NDIMURUKUNDO	Négociant en bois et transporteur de bois
52	Gérard SINDAYIGANZA	Envirotec, Directeur
53	Egide	Membre de l'Association Fashamya (marché du bois de Jabe / Bujumbura)
54	Anonymes	Menuisiers dans la zone de Mabanda - Mugina

Mission Schedule

Date	Place of Performance	Activities
30 August	Flight / Kigali	Mission to Burundi: Travel Brussels – Kigali
05-06 September	Travel	Travel by road Kigali – Butare. Contacts in Bujumbura to prepare the mission.
07 September	Butare; travel; Kanyaru-Haut border ; travel ; Bujumbura	Travel by road Butare - Akanyaru-Haut. Visit of Kanyaru-Haut border post with Rwanda and interview of Customs staff. Conversation with FAO Rome, ACP-FLEGT Support Programme (by phone). Travel by road Kanyaru-Haut - Bujumbura.
08	Bujumbura; Rusizi	Briefing of the local expert and further steps to organize the mission. Meeting with Synergie du Peuple pour l'Encadrement Agro-Pastoral et la Lutte contre la Pauvreté SPEAP, support project to the local initiatives of communities adjacent to Monge forest (FAO / ACP-FLEGT Support Programme). Meeting with the Technical Advisor of the Administrator of Gihanga Commune. Visit to Rusizi National Park and surrounding area.
09	Bujumbura	Visit of the wood markets of Bujumbura: "Buyenzi City Market / Chez Sioni", Jabe wood market, interview of wood retailers, carpenters and crews of wood trucks. Meeting with the members of the association Fashamya of Jabe wood market. Meeting with a wood trader and transporter.
10	Bujumbura	Meeting with the management of the EU Post-Conflict Programme of Rural Development PPCDR. Official formalities with Customs services to obtain access to border posts and customs data. Meeting with the Director of Envirotec.

Date	Place of Performance	Activities
		Meeting with the Prison administration (wood procurement). Meeting with the President of the Federation for the Rural Development FDMR. Visit of the facilities of the company GTS making wooden furniture.
11	Bujumbura	Official formalities with Customs services to obtain access to border posts and customs data (continued). Meeting with the President of Greenbelt Action for the Environment ACVE. Meeting with the Operator of Bujumbura Harbour EPB and visit of the harbour. Meeting at Burundi Revenue Office OBR, Bujumbura harbour central office: Director of Customs services, Statistics Service.
12	Bujumbura; travel; Gatumba border	Meeting at the Ministry of Water, Environment, Lands and Urban Planning MEEATU with the General Director of Forestry and Environment. Meeting with FAO Assistant Representative, Programme Officer. 2nd meeting with the President of FDMR. Travel by road Bujumbura – Gatumba – Bujumbura. Visit of Gatumba border post with DRC and interview of Customs staff. Enquiries on wood traffic in Gatumba area.
13	Bujumbura	Meetings at the Department of Forests, Service Development and Extension of Forest Resources, Service Management of Forest Resources, Wood Processing and Marketing unit. Meeting with the Advisor of the General Director of Forestry and Environment. Further steps to organize the field tour.
14	Travel Bujumbura – Gitega; Gitega; travel; Kobero border; travel; Kirundo	Travel by road Bujumbura – Gitega. Meetings at the National Institute for the Environment and Nature Conservation INECN headquarters: Director General a.i., Chief Wardens of the national parks and forest nature reserves, Legal Advisor. Meeting with the National Expert of the project of improvement of the management system of protected areas (UNDP). Travel by road Gitega – Muyinga – Kobero. Visit of Kobero border post with Tanzania and interview of Customs staff. Travel by road Kobero – Kirundo.
15	Kirundo; travel; Gasenyi border; Ngozi; travel; Kayanza	Travel by road Kirundo - Gasenyi. Visit of Gasenyi border post with Rwanda and interview of Customs staff. Travel by road Gasenyi – Ngozi. Meeting with the Agriculture Officer of Ngozi Commune. Travel by road Ngozi - Kayanza.
16	Kayanza; travel; Kanyaru Haut border; travel; Kibira National Park; Bujumbura	Travel by road Kayanza – Kanyaru-Haut. 2nd visit of Kanyaru-Haut border post with Rwanda and interview of Customs staff. Travel by road Kanyaru-Haut – Teza. Meeting with the Head of Sector Teza of INECN. Visit of the forest of Kibira National Park and surrounding Teza tea estate. Travel by road Teza - Bujumbura.
17	Bujumbura	Attempts at obtaining further appointments at the Department of Forests. Visit of the facilities of the company Wood Perfect. Meetings with the Customs services (OBR, Bujumbura harbour central office): 2nd working session with the Statistics Service, meeting with the Head of the Border Post Services. 2nd meeting with the President and Coordinator of ACVE. Meeting with the Director of the Rwanda - Burundi Program of Wildlife Conservation Society WCS. 2nd meeting with the Advisor of the General Director of Forestry and Environment. Meeting with the Programme Officer Rural Development at the EU Delegation.
18	Bujumbura; Bururi; travel; Nyanza-Lac	Appointment cancelled at the Legal Secretariat of OBR. Travel by road Bujumbura – Rumonge – Bururi. Meeting with the Head of Sector of INECN. Short visits in Rumonge and Bururi Forest Nature Reserves. Meeting with the Regional Inspector of Forests, South Region. Travel by road Bururi – Nyanza-Lac. Short visits in Kigwena and Vyanda Forest Nature Reserves.
19	Nyanza-Lac; travel; Mugina border; Mabanda; Kabonga border; travel; Rumonge harbour; travel; Bujumbura	OBR office and enquiries on wood traffic in Nyanza-Lac. Travel by road Nyanza-Lac – Mabanda – Mugina. Interview of carpenters in the area of Mabanda – Mugina. Visit of Mugina border post with Tanzania and interview of Police and Customs staff in Mugina and Mabanda. Travel by road Mabanda – Kabonga. Visit of Kabonga border post with Tanzania and interview of Police staff. Travel by road Kabonga – Rumonge. Visit of Rumonge harbour border post with DRC and interview of Customs staff; enquiries in town on wood traffic. Travel by road Rumonge – Bujumbura.
20	Bujumbura; travel; Rutana; travel; Bujumbura	Attempts at obtaining further appointments at the Department of Forests. 2nd meeting with the Legal Advisor of INECN. Travel by road Bujumbura – Ijenda – Matana – Rutana. Meeting with provincial staff (Economic Advisor of the Governor, Provincial Inspector of Forests, Forestry Officer of Rutana Commune. Travel by road Rutana – Bujumbura.

Date	Place of Performance	Activities
21 September	Bujumbura; travel; Ruhwa border; travel; Kigali	Work with the local expert. Travel by road Bujumbura – Cibitoke – Ruhwa. Enquiries on wood traffic across the Risizi valley. Visit of Ruhwa border post with Rwanda and interview of Customs staff. Travel by road Ruhwa - Kigali.
27	Kigali; flight	Travel Kigali - Brussels.
28	Flight	Travel Kigali – Brussels. End of mission to Burundi

Annex 3 - Maps of Burundi

Figure 3 Map of towns, Provinces, roads and border posts.

Notes: Source of base map: http://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Burundi%20-%20RE%20Projet%20Route.pdf
See list of border posts next page

Notes on Figure 3: List of border posts and crossing points.

The posts are numbered anticlockwise around the country

Border with	Nr on map	Type of post	Name	Remark
Rwanda				
	(1)	P	Gasenyi 1	
	(2)	P	Kanyaru-Haut	
	(3)	P	Ruhwa	
D.R. Congo				
	(3)	P	Ruhwa	via Rwanda
	(4)	P	Gatumba secondary post	Not manned at night
	(5)	P	Gatumba main post	
	(6)	**O**	**Bujumbura harbour**	
	(7)	P	Rumonge harbour	
	(8)	P	Nyanza-Lac harbour	
Tanzania				
	(6)	**O**	**Bujumbura harbour**	
	(8)	P	Nyanza-Lac harbour	
	(9)		(Kabonga)	coastal road, manned by the police
	(10)	P	Mugina	manned by the police (OBR post in Mabanda)
			(Malagarasy)	not manned, for smuggling, exact location to be confirmed
	(11)		(Gisuru)	not manned, for smuggling, exact location to be confirmed
	(12)		Gasenyi 2	Post of Cancuzo, closed because the road is in bad condition, exact location to be confirmed
	(13)	P	Kobero	

O = Customs Office

P = Customs Post

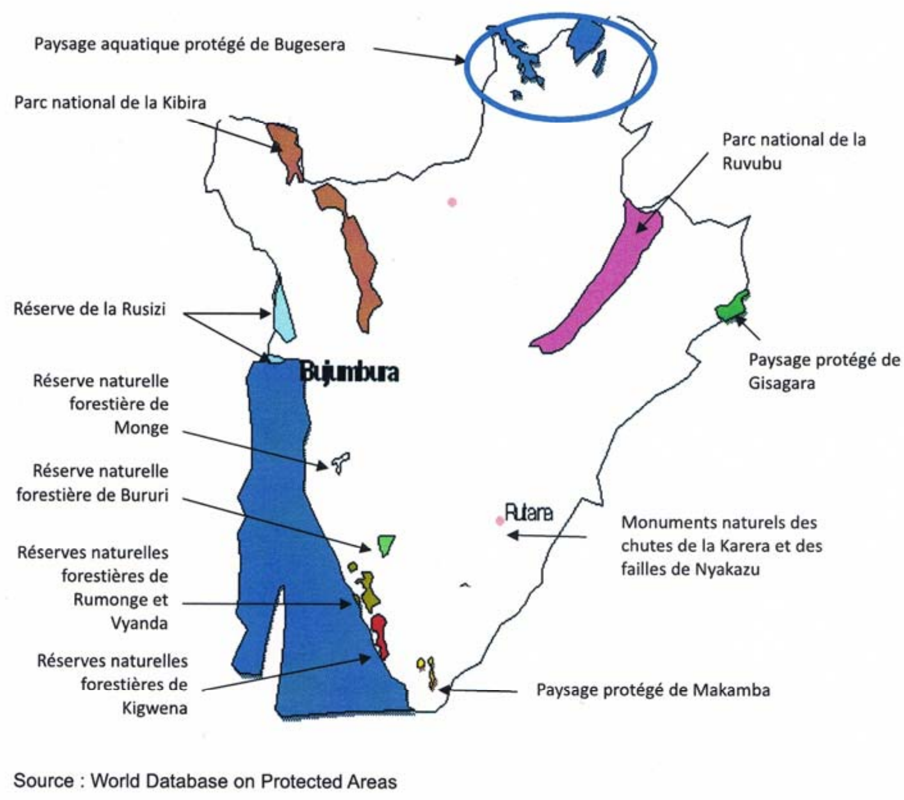

Figure 4 Map of the protected areas

Annex 4 - Staff deployment of INECN

Table 4 Summary of the staff deployment of INECN (2012)

Department or protected area	Number of staff	Estimated area	Staffing ratio
Direction General of INECN (Main office in Gitega)	32		
Technical Direction (Main office in Gitega)	13		
Kibira National Park	64	45,000 ha	
Reserves of Bururi, Rumonge, Kigwena and Vyanda	38	8,300 ha	
Monge Reserve	15	1,500 ha	
Rusizi National Park	20	11,000 ha	
Sub-total departments dealing mostly with forest ecosystems	**182**	**65,800 ha**	**1 employee / 3.6 km2**
Direction of the Environment (Main office in Gitega)	14		
Protected areas mainly composed of non forest ecosystems (*)	111		
Sub-total departments not dealing mostly with forest ecosystems	**125**		
Total INECN	**307**		

(*) Ruvubu National Park, Makamba, Bugesera and Gisagara Protected Landscapes, Natural Monuments.

Annex 5 - Charts and tables on wood flows

Burundi's trade in selected groups of wood-based product (2000-2011, by partner country)

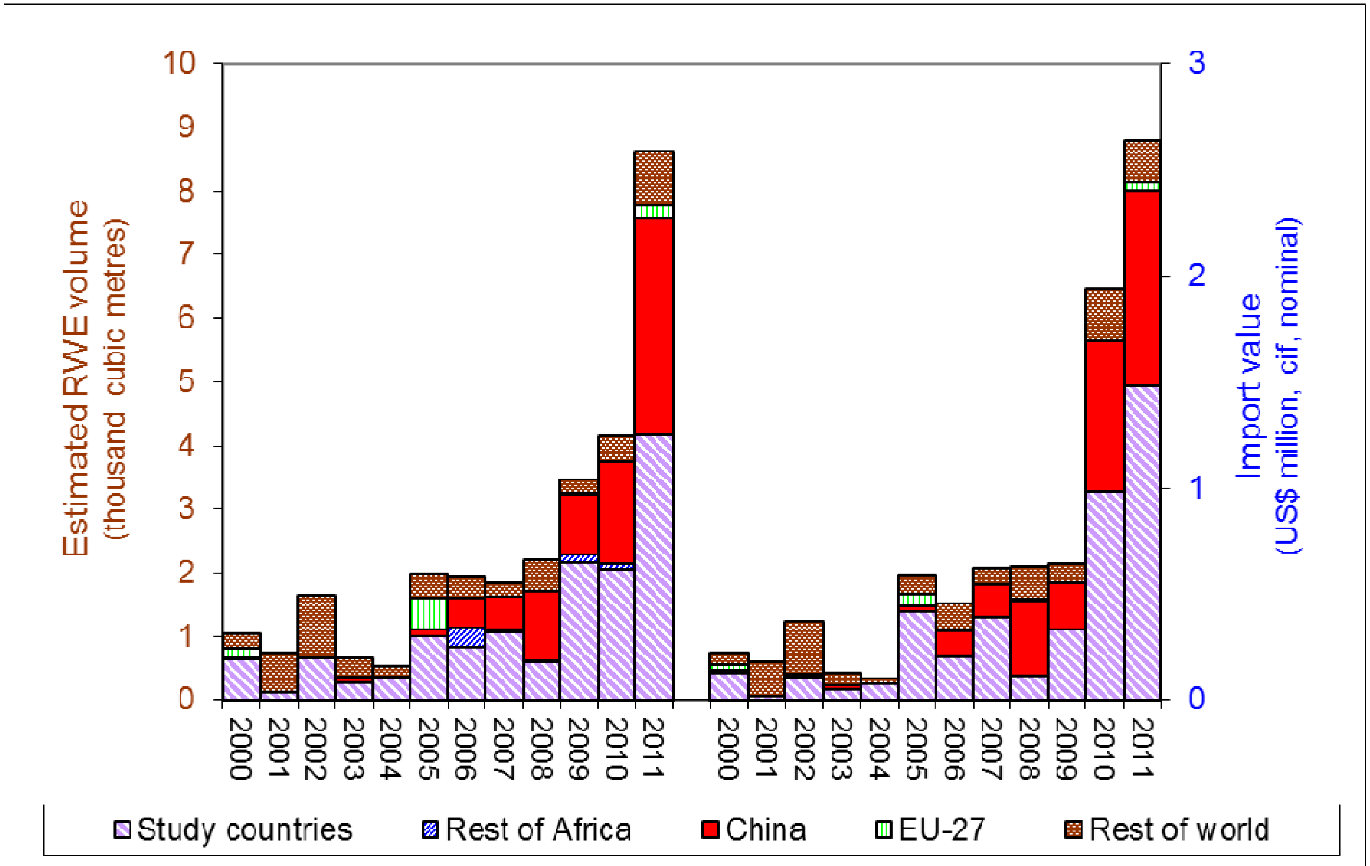

Figure 5 Burundi's imports of VPA core products

Source: based on UN Comtrade (3), 2012

Note: Burundi's exports of VPA core are negligible

[3] Estimates of weight or volume have been made where source data seems anomalous. Weight or volume has been converted to estimated roundwood equivalent volume by multiplying volume by (in m3 per m3) 1.4 (particleboard), 1.8 (sawn wood and fibre board), 1.9 (veneer and mouldings), 2.3 (plywood) and (in m3 per tonne) 1.6 (wood chips), 2.8 (wooden furniture), 4.5 (wood-based pulp), 3.5 (paper, joinery and other finished products), 6 (charcoal).
VPA core products are defined here as logs, sawn wood, veneer and plywood. The Paper Sector is defined here as wood chips, wood-based pulp and paper.

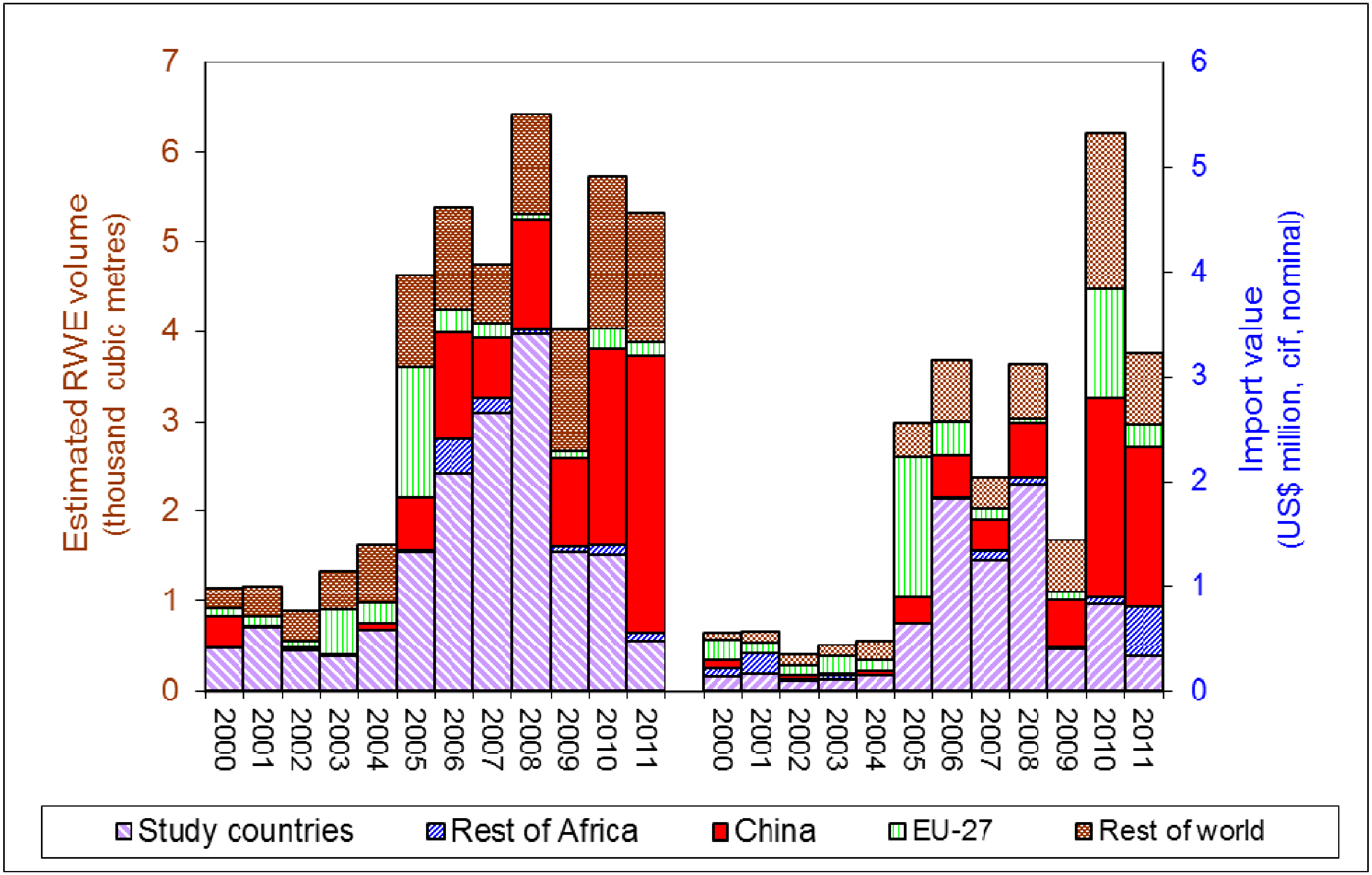

Figure 6 Burundi's imports of other Timber Sector products

Source: based on UN Comtrade, 2012

Note: Burundi's exports of other Timber Sector products are negligible

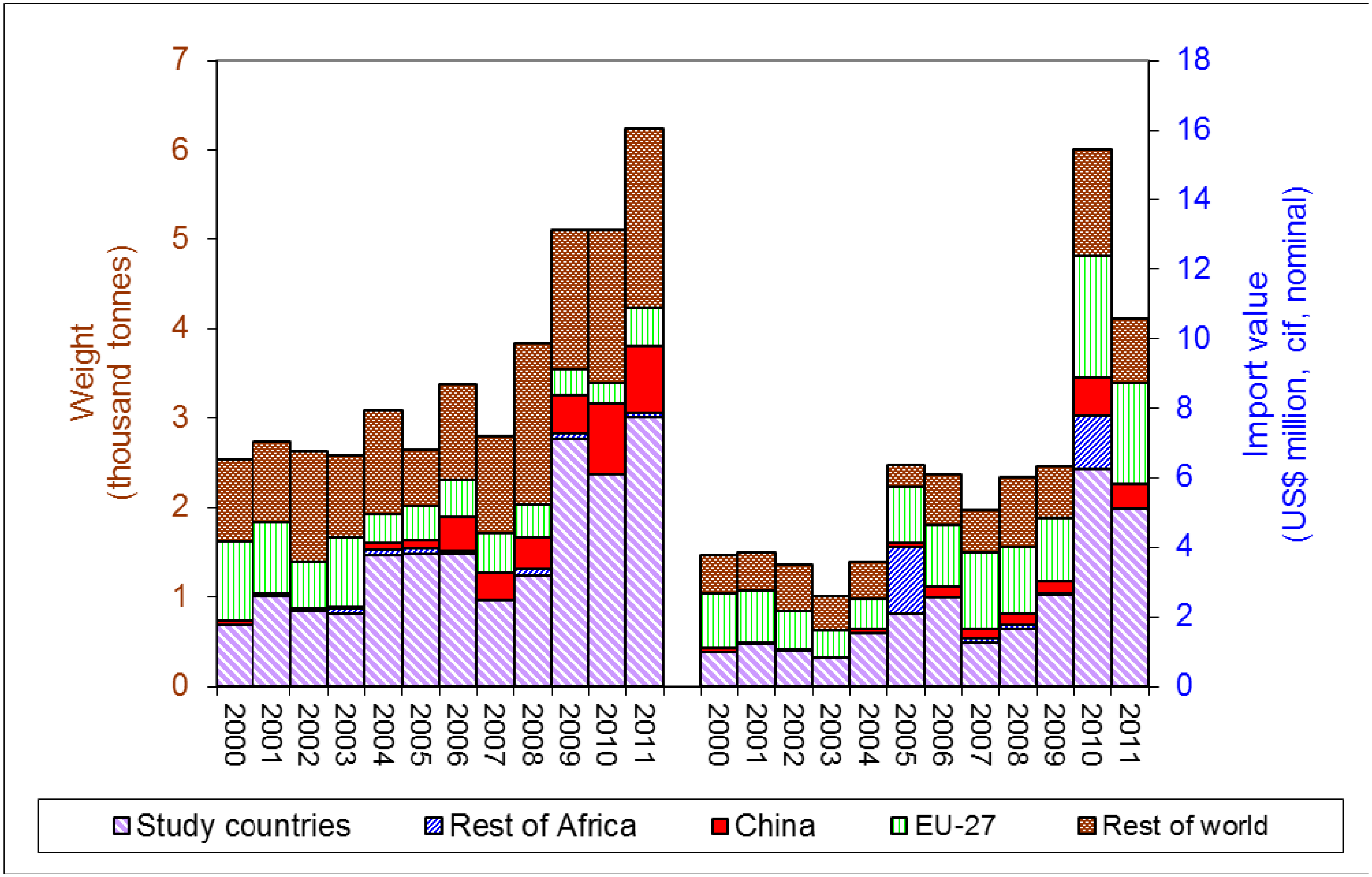

Figure 7 Burundi's imports of Paper Sector products

Source : based on UN Comtrade, 2012

Note: data provided by the source on imports of paper sector products in 2009 seemed anomalous and have been revised here.

Note: Burundi's exports of paper sector products are negligible

Table 5 Burundi's trade in wood-based products (by sector and major product group)

Exports:

Product group	**Estimated roundwood equivalent volume** *(thousand cubic metres)*											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**2**
Timber sector	0	0	0	0	0	0	0	0	0	1	0	1
Paper sector	0	0	0	0	0	0	0	1	1	0	1	1
Fuel sector	0	0	0	0	0	0	0	0	0	0	0	0

Product group	**Export value** *(US$ million, fob, nominal)*											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
Timber sector	0	0	0	0	0	0	0	0	0	0	0	1
Paper sector	0	0	0	0	0	0	0	0	0	0	0	0
Fuel sector	0	0	0	0	0	0	0	0	0	0	0	0

Imports:

Product group	**Estimated roundwood equivalent volume** *(thousand cubic metres)*											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**11**	**11**	**12**	**11**	**13**	**16**	**19**	**16**	**22**	**25**	**28**	**36**
Timber sector	2	2	3	2	2	7	7	7	9	7	10	14
Paper sector	9	10	9	9	11	9	12	10	14	18	18	22
Fuel sector	0	0	0	0	0	0	0	0	0	0	0	0
VPA core products	*1*	*1*	*2*	*1*	*1*	*2*	*2*	*2*	*2*	*3*	*4*	*9*
Plywood	1	1	1	0	1	2	1	2	2	3	4	8
Furniture	0	0	0	1	1	2	3	2	5	2	3	4
Paper	9	10	9	9	11	9	12	10	13	18	18	22

Product group	**Import value** *(US$ million, cif, nominal)*											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total	**5**	**5**	**4**	**3**	**4**	**10**	**10**	**8**	**10**	**8**	**23**	**16**
Timber sector	1	1	1	1	1	3	4	3	4	2	7	6
Paper sector	4	4	3	3	4	6	6	5	6	6	15	11
Fuel sector	0	0	0	0	0	0	0	0	0	0	0	0
VPA core products	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*1*	*1*	*1*	*2*	*3*
Plywood	0	0	0	0	0	1	0	1	1	1	2	2
Furniture	0	0	0	0	0	2	3	1	3	1	4	3
Paper	4	4	3	3	4	6	6	5	6	6	15	11

Notes:
Burundi's imports of paper during 2009 appear anomalous.
Source: based on UN Comtrade; 2012; source data have been converted to roundwood equivalent volume by multiplying by – in cubic metres per cubic metre – 1 (logs), 1.4 (particleboard), 1.8 (sawn wood and fibre board), 2.3 (plywood) and by – in cubic metres per tonne – 2.8 (wooden furniture) and 3.5 (paper).
Anomalies identified in the source data were revised
Definitions of terms used in these tables:
Fuel sector - firewood (HS code 440110) and charcoal (HS code 440200);
Paper sector – wood chips (HS code 44012*), wood-based pulp (HS codes 4701** to 47005* inclusive) and paper (HS codes 48****);
Timber sector – wooden furniture (HS codes 940161, 940169, and 940330 to 940360 inclusive) and other wood (HS codes 4403** to 4421** inclusive);
VPA core products – logs, sawn wood, veneer and plywood.

Table 6 Burundi's exports of particular wood-based products (by destination country)

Official statistics indicate that Burundi exports a negligible quantity of wood-based products

Table 7 Burundi's imports of particular wood-based products (by supplying country)

Product group	Physical quantity (thousand cubic metres or thousand tonnes)												Import value (US$ million, cif, nominal)											
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Plywood *(physical quantity – volume)*																							
Total	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**1**	**1**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**1**	**2**	**2**
Study countries	0	0	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	0	0	0	1	1
Rest of Africa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
China	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
EU-27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of world	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Wooden furniture *(physical quantity – weight)*																							
Total	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**2**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**1**	**3**	**1**	**4**	**3**
Study countries	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	2	1	2	0	0	0
Rest of Africa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
China	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	1
EU-27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	0
Rest of world	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
	Paper *(physical quantity – weight)*																							
Total	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**4**	**5**	**5**	**6**	**4**	**4**	**3**	**3**	**4**	**6**	**6**	**5**	**6**	**6**	**15**	**11**
Study countries	1	1	1	1	1	1	1	1	1	3	2	3	1	1	1	1	2	2	3	1	2	3	6	5
Rest of Africa	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	0
China	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
EU-27	1	1	1	1	0	0	0	0	0	0	0	0	2	1	1	1	1	2	2	2	2	2	3	3
Rest of world	1	1	1	1	1	1	1	1	2	2	2	2	1	1	1	1	1	1	1	1	2	2	3	2

Source: based on UN Comtrade, 2012

Note: Burundi's source data on imports of paper during 2009 appear anomalous and were revised

Annex 6 - Synthesis on current threats against the forest protected areas of Burundi

Table 8 Synthesis on current threats against the forest protected areas of Burundi

Forest protected area		**Management**		**Threats currently active (2011-2012)**								
		Management plan	Physical demarcation	Redoubt for armed groups	Fragment-ation	Cultivation inside (old clearing)	Clearing for agriculture or settlements (new clearing)	Timber logging	Charcoal (and brick) making	Mining & quarries	Forest fires	Miscellaneous impacts from bad collaboration
NP	Kibira	2009-2013 but resources insufficient for an implementation	Yes (being repaired)	Seems to have stopped recently	YY The park is made of two blocks but is still threatened to be further fragmented	YY	Y	Y in some sectors (mahogany) + bamboo cutting	(Y) but has been much reduced	YY (informal for gold, tin, coltan)	Y (high incidence in 2010 due to political laxity during national elections)	Y (opening of a water canal through the park; impacts from army firewood supply; no protection received from tea estates)
NP	Rusizi	(1996-…)	Yes (in bad condition & with conflicts)			YY local population (Bujumbura suburbs): rice fields + settlements; industrial sugar cane plantation	YY	Y (endemic palm tree)	Y (charcoal and firewood for Bujumbura and nearby settlements)	Y sand for construction (locals + companies from Bujumbura)		Y
FNR	Monge	No	No (only old rangers know boundaries)		Y	YY	Y (local population encroach little by little) Improvement with FAO-FLEGT project?	Y (mahogany)	Y		Y?	
FNR	Vyanda	No	Yes			YY	Y				Y	
FNR	Bururi	(1992-…)	Yes (in bad condition & with conflicts)			Y		Y in some areas (mahogany)		Y (local population + local VIPs)	Y?	
FNR	Rumonge	No	Yes (in bad condition & with conflicts)			Y					Y	

Forest protected area		Management		Threats currently active (2011-2012)								
		Management plan	Physical demarcation	Redoubt for armed groups	Fragment-ation	Cultivation inside (old clearing)	Clearing for agriculture or settlements (new clearing)	Timber logging	Charcoal (and brick) making	Mining & quarries	Forest fires	Miscellaneous impacts from bad collaboration
FNR	Kigwena	No	Yes (in bad condition & with conflicts)			Y					Y	
FNR	Mpotsa					Traditional value	Respected					
PL	Makamba	No	Small part marked			Y			YY	Y (local population + VIPs)	Y	
PL	Gisagara	2009-2013	No			Y (repatriated former refugees, with authorization from local authorities)					Y	
PL	Bugesera (Murehe)	2009-2013	Yes			Y (repatriated former refugees, with authorization from local authorities)			YY	Y (BUMINCO)	Y	

Abbreviations in the table:

NP	National Park
FNR	Forest Nature Reserve
PL	Protected Landscape
YY	Very active threat
Y	Active threat
VIP	Very Important People
BUMINCO	Burundi Mining Company

Sources: UICN (2011), INECN, WCS, ACVE

Notes: Blank cells mean that no specific information is available (the threat may still be present to a certain degree).
For the column on forest fires, it should be kept in mind that they are less common in montane rainforest and usually less extensive, but when they do occur, they are more harmful than in *Brachystegia* woodland which is a vegetation more adapted to fire.

Annex 7 - Organizational charts

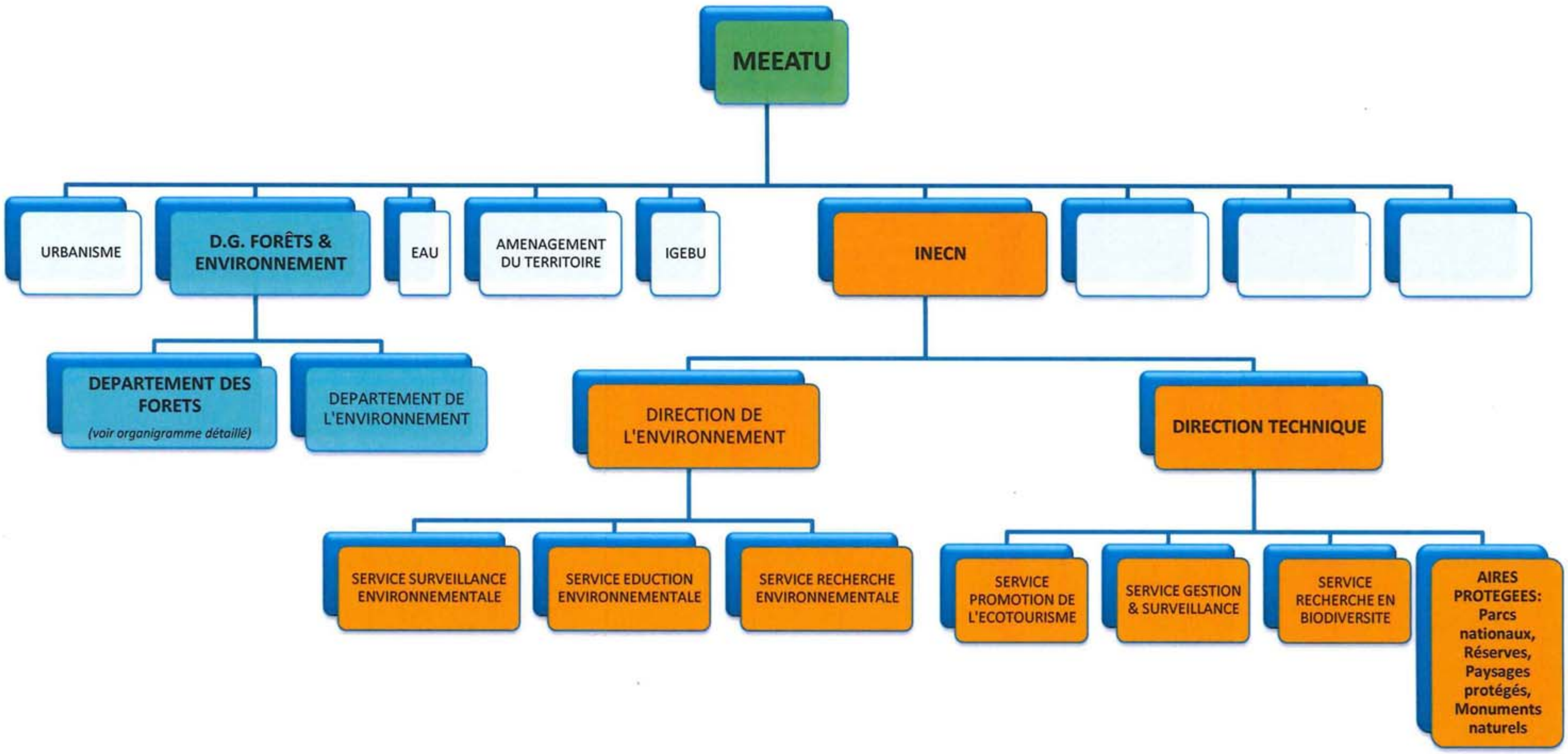

Figure 8 Simplified organizational chart of MEEATU and INECN

Source: Fact finding mission (2012).

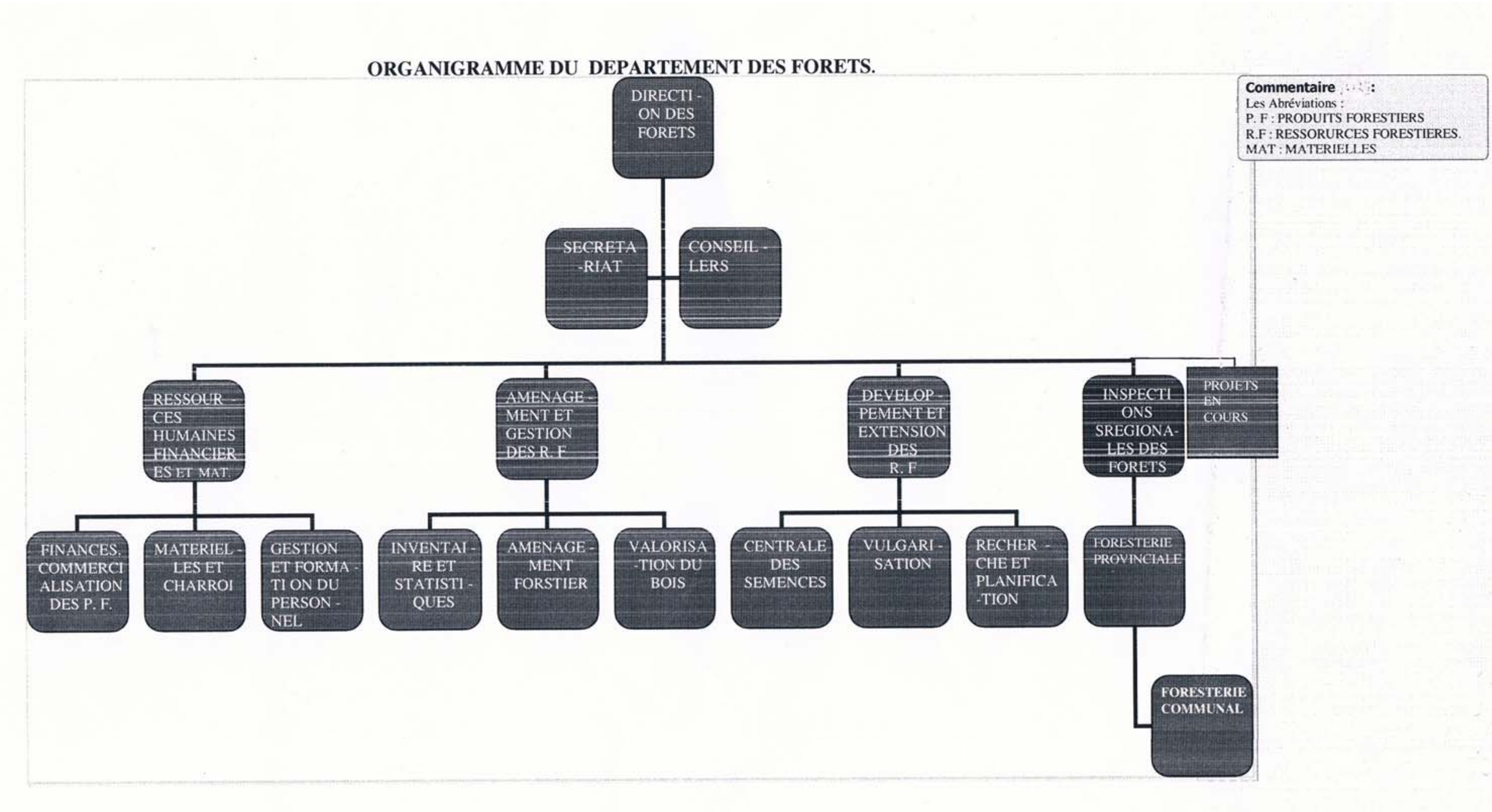

Figure 9 Organizational chart of the Department of Forests

Source: Department of Forests (2012).

Annex 8 - Funding from the Burundian Government to the forestry sector

Table 9 Funding from the Burundian Government to the forestry sector

Financement de l'Etat burundais au secteur forestier:					
Recettes	**2010**		**2012**		
Intitulé	**Total US$**		**Total US$**		**Remarques**
Permis de coupe de bois	19396		14181		
Autorisation de transport de bois					Non détaillé
Amendes forestières					Non détaillé
Recettes INECN					Non détaillé
Dépenses	**2010**		**2012**		
Intitulé	**Total US$**	**%**	**Total US$**	**%**	**Remarques**
Total budget de l'Etat	**551623687**	***100%***	**567760252**	***100%***	
MINAGRIE (Total) pour comparaison	14724571	*2,7%*	32849786	*5,8%*	
MEEATU (Total)	**10222531**	***1,9%***	**6837000**	***1,2%***	
Cabinet du Ministre					
Personnel et fonctionnement	p.m.		p.m.		
Programme National de Reboisement	3265306		1428571		Pas tout dépensé
Contrepartie COMIFAC	81633				
Appui aux investissements forestiers	37559		32864		
Appui plantations péri-urbaines et agrof.	70204		61429		
Aménagement des Bassins-Versants	62041		47857		
Direction Générale Forêts Environnement	**14709**		**11961**		
Remunérations et sécurité sociale personnel	13901		11254		Une partie concerne l'environnement
Achat matériel et fournitures de bureau	808		707		Une partie concerne l'environnement
Direction des Forêts	**120137**		**162924**		
Remunér.& sécur. sociale personnel s/statuts	80223		131418		
Remunér.& sécur. sociale personnel s/contrat	22731		18042		
Achat matériel et fournitures de bureau	857		750		
Appui à la création de centres multifonctionnels de production de bois	16327		12714		
INECN	**425645**		**382745**		Essentiellement "subsides" & "appuis"
Total approximatif secteur forestier (au sein du budget MEEATU)	**4077235**	***0,7%***	**2128352**	***0,4%***	

Source: based on the financing law for 2010 and 2012.

Annex 9 - Comparison of the official production of wood with the consumption in the country

Table 10 Comparison of the official production of wood with the consumption in the country

Comparison of the official production of wood (recorded by the forest administration) to the estimated actual consumption in the country:

Comparaison de la production officielle de bois (enregistrée par le Département des Forêts) avec la consommation nationale réelle estimée:

"PRODUCTION"*	(DF)	2005	2006	2007	2008	2009	2010	2011	Average	Max	Min	vmoy RWE
Small poles	Nr pc /y.	268115	200325	208962	377660	491116	43605	78700	*238355*	*491116*	*43605*	*0,014*
Poles	Nr pc /y.	3392	5088	4581	7882		1183	596	*3246*	*7882*	*0*	*0,296*
Tot. service w.												
Planks	Nr pc /y.	139037	116895	61149	192505	127014	211195	234104	*154557*	*234104*	*61149*	*0,041*
Beams	Nr pc /y.	118739	116502	105280	83560	87920	147756	112685	*110349*	*147756*	*83560*	*0,082*
Tot.sawn timber												
Total timber												
Charcoal	Nr sacks/y	211554	137442	217539	205728	135558	134219	114129	*165167*	*217539*	*114129*	*0,500*
Firewood	Nr st /y.	3540	3262	2874	7774	8222	7145	2283	*5014*	*8222*	*2283*	*0,74*
Tot. Fuelwood												
Total wood												

"PRODUCTION"**	(DF)	2005	2006	2007	2008	2009	2010	2011	Average	Max	Min
Small poles	(m3 RWE/y)	*3843*	*2871*	*2995*	*5413*	*7039*	*625*	*1128*	*3416*	*7039*	*625*
Poles	(m3 RWE/y)	*1004*	*1506*	*1356*	*2333*	*0*	*350*	*176*	*961*	*2333*	*0*
Tot. service w.	(m3 RWE/y)	***4847***	***4377***	***4351***	***7746***	***7039***	***975***	***1304***	***4377***	***7746***	***975***
Planks	(m3 RWE/y)	*5764*	*4846*	*2535*	*7980*	*5265*	*8755*	*9705*	*6407*	*9705*	*2535*
Beams	(m3 RWE/y)	*9715*	*9532*	*8614*	*6837*	*7193*	*12089*	*9220*	*9029*	*12089*	*6837*
Tot.sawn timber	(m3 RWE/y)	***15479***	***14378***	***11149***	***14817***	***12459***	***20844***	***18924***	***15436***	***20844***	***11149***
Total timber	(m3 RWE/y)	***20326***	***18755***	***15500***	***22563***	***19498***	***21819***	***20229***	***19813***	***22563***	***15500***
Charcoal	(m3 RWE/y)	*105777*	*68721*	*108770*	*102864*	*67779*	*67110*	*57065*	*82584*	*108770*	*57065*
Firewood	(m3 RWE/y)	*2635*	*2428*	*2140*	*5787*	*6121*	*5319*	*1700*	*3733*	*6121*	*1700*
Tot. Fuelwood	(m3 RWE/y)	***108412***	***71149***	***110909***	***108651***	***73900***	***72429***	***58764***	***86316***	***110909***	***58764***
Total wood	(m3 RWE/y)	***128738***	***89904***	***126409***	***131214***	***93398***	***94248***	***78993***	***106129***	***131214***	***78993***

CONSUMPTION***	(estim,2010)	2005	2006	2007	2008	2009	2010	2011	Average		
Small poles	(m3 RWE/y)										
Poles	(m3 RWE/y)										
Tot. service w.	(m3 RWE/y)	722000	722000	722000	722000	722000	722000	722000	722000		
Planks	(m3 RWE/y)										
Beams	(m3 RWE/y)										
Tot.sawn timber	(m3 RWE/y)	310000	310000	310000	310000	310000	310000	310000	310000		
Total timber	(m3 RWE/y)										
Charcoal	(m3 RWE/y)										
Firewood	(m3 RWE/y)										
Tot. Fuelwood	(m3 RWE/y)	6800000	6800000	6800000	6800000	6800000	6800000	6800000	6800000		
Total wood	(m3 RWE/y)	7832000	7832000	7832000	7832000	7832000	7832000	7832000	7832000		
% captured	ratio **/***	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**Average**	**Max**	**Min**
Small poles	(m3 RWE)										
Poles	(m3 RWE)										
Tot. service w.	(m3 RWE)	1%	1%	1%	1%	1%	0%	0%	**1%**	1%	0%
Planks	(m3 RWE)										
Beams	(m3 RWE)										
Tot.sawn timber	(m3 RWE)	5%	5%	4%	5%	4%	7%	6%	**5%**	7%	4%
Total timber	(m3 RWE)										
Charcoal	(m3 RWE)										
Firewood	(m3 RWE)										
Tot. Fuelwood	(m3 RWE)	2%	1%	2%	2%	1%	1%	1%	1%	2%	1%
Total wood	(m3 RWE)	2%	1%	2%	2%	1%	1%	1%	1%	2%	1%

Notes on table 10:

* The first part of the table is the official production, presented in number of pieces. Source: Département des Forêts according to NDONSE, 2012: "Flux des produits ligneux et permis de coupe (bois exploité)".

** The second part of the table is this official production, converted to RWE volume, using the conversion factors listed in Annex 5.

*** National consumption roughly estimated as in Table 3 of paragraph 6. As this estimation is not accurate, the figures are the same for the different years.

"vmoy RWE" is the mean RWE volume of one piece, sack or stère which is used in the calculations.
"% captured" is the ratio between the RWE "production" and the estimated national consumption.
For a more detailed explanation and interpretation of the table, see the last part of chapter 7 of the report.