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

Madagascar Study

February 2014

Table of Contents

List of Tables

List of Figures

Abbreviations

Abbreviations in French

ADM	Analyse et Développement des Marchés
AIFM	Association des Ingénieurs Forestiers Malgaches
ANGAP	Association Nationale pour la Gestion des Aires Protégées
APV	Accord de Partenariat Volontaire
AVG	Alliance Voahary Gasy
BIANCO	Bureau Indépendant ANti- COrruption
CAFF	Commission ad hoc Faune et Flore
CCPTF-E	Cercle de Concertation des Partenaires Techniques et Financiers - Environnement
CAF	Coût, Assurance, Fret
CEF	Cantonnement de l'Environnement et des Forêts
CIRAD	Centre de Coopération Internationale en Recherche Agronomique pour le Développement
CIREF	Circonscription Régionale de l'Environnement et des Forêts
CITES	[Convention sur le commerce international des espèces de faune et de flore sauvages menacées d'extinction]
CNUCED	Conférence des Nations Unies sur le Commerce et le Développement
COAP	Code des Aires Protégées
CoBa	Communauté de Base (= VOI)
COGESFOR	Projet de COnservation et de GEStion des écosystèmes FORestiers malgaches
COI	Commission de l'Océan Indien
CORE	Comité d'Orientation sur la Recherche Environnementale
COS	[Bois] de Construction, d'œuvre et de Service
CPI	[Indice de Perception de la Corruption]
DGF	Direction Générale des Forêts
DREF	Direction Régionale de l'Environnement et des Forêts
EBR	Equivalent Bois Rond (volume)
ESSA	Ecole Supérieure des Sciences Agronomiques
FAB	Franco A Bord
FCPF	Fonds de Partenariat pour le Carbone Forestier
FFEM	Fonds Français pour l'Environnement Mondial
FFN	Fonds Forestier National
FFR	Fonds Forestier Régional
FLEGT	[Application des Réglementations Forestières, Gouvernance et Echanges commerciaux]
FOFIFA	[Centre national de la Recherche appliquée au Développement rural]
GCF	Gestion Contractualisée des Forêts
GELOSE	Gestion Locale Sécurisée
GERP	Groupe d'Etude et de Recherche sur les Primates de Madagascar
GESFORCOM	Projet de Gestion Forestière Communale et Communautaire

GIZ	Coopération Allemande au Développement
GNEFM	Groupement National des Exploitants Forestiers de Madagascar
HAT	Haute Autorité de la Transition
IEFN	Inventaire Ecologique Forestier National
INSTAT	Institut National de la Statistique
MECIE	Mise En Compatibilité des Investissements avec l'Environnement
MEF	Ministère de l'Environnement et des Forêts
(MEFT	Ministère de l'Environnement, des Forêts et du Tourisme: old name)
(MINENVEF	Ministère de l'Environnement et des Eaux & Forêts: old name)
NAP	Nouvelle Aire Protégée
NIF	Numéro d'Identification Fiscale
OIBT	Organisation Internationale de Bois Tropicaux
OIF	Observation Indépendante des Forêts
OMC	Organisation Mondiale du Commerce
ONE	Office National de l'Environnement
ONESF	Observatoire National de l'Environnement et du Secteur Forestier
ONI	Observatoire National de l'Intégrité
ONG	Organisation Non Gouvernementale
OPJ	Officier de Police Judiciaire
PARTAGE	Participation à la Gestion de l'Environnement
PGM-E	Programme Germano-Malgache pour l'Environnement
PE3	Programme Environnemental phase III
PIB	Produit Intérieur Brut
PNAE	Plan National d'Action Environnemental
PNUE	Programme des Nations Unies pour l'Environnement
PRHM	Périmètre de Reboisement de la Haute Matsiatra
PROLEGTRA	Projet d'appui à la LEGalité et à la TRAçabilité de l'exploitation communautaire de bois d'œuvre
PRPV	Programme Régional de Protection des Végétaux (de la COI)
RBUE	Règlement Bois de l'Union Européenne
REBIOMA	Réseau de la Biodiversité de Madagascar
REDD	[Réduction des Emissions de la Déforestation et de la Dégradation des forêts]
RFR	Réserves Foncières pour les Reboisements
RN	Route Nationale
SAPM	Système des Aires Protégées de Madagascar
SGFD	Site(s) de Gestion Forestière Durable
SAL	Système d'Assurance de la Légalité
SGL	Système de Garantie de la Légalité
SVL	Système de Vérification de la Légalité
SG	Secrétaire Général
SYDONIA	SYstème DOuaNIer Automatisé

UE	Union Européenne
UICN	Union Internationale pour la Conservation de la Nature
UNESCO	Organisation des Nations Unies pour l'Education, la Science et la Culture
URP	Unité de Recherche en Partenariat (CIRAD)
VOI	Vondron'Olona Ifotony (=CoBa)

French acronyms of the departments and positions of the Ministry of Environment and Forests

CEF	Cantonnement de l'Environnement et des Forêts
CIREF	Circonscription Régionale de l'Environnement et des Forêts
DGF	Direction Générale des Forêts
DREF	Direction Régionale de l'Environnement et des Forêts
MEF	Ministère de l'Environnement et des Forêts
SG	Secrétaire Général

English acronyms

AFF	African Forest Forum
ASYCUDA	Automated SYstem for CUstoms DAta
CI	Conservation International
CIF	Cost, Insurance and Freight
CITES	Convention on International Trade of Endangered Species of Wild Fauna and Flora
COC	Chain of Custody
COMESA	Common Market for Eastern and Southern Africa
CPI	Corruption Perception Index
CSO	Civil Society Organization
DBH	Diameter at Breast Height
DFID	Department for International Development
EFI	European Forest Institute
EIA	Environmental Investigation Agency
EU-27	European Union (27 member countries)
FAO	Food and Agriculture Organization of the United Nations
FLEGT	Forest Law Enforcement, Governance and Trade
FOB	Free On Board
FRA	global Forest Resources Assessment
FSC	Forest Stewardship Council
GDP	Gross Domestic Product
IOC	Indian Ocean Commission
ICTE	Institute for the Conservation of Tropical Environments
IRG	International Resource Group
ITTO	International Tropical Timber Organization
MBG	Missouri Botanical Gardens
MGA	Malagasy Ariary

MNP	Madagascar National Parks
pa	*per annum*
REDD	Reduced Emissions from Deforestation and forest Degradation
R-PP	Readiness Preparation Proposal
RWE	Round Wood Equivalent
SADC	South Africa Development Cooperation
UN	United Nations
UNCTAD	United Nations Conference on Trade and Development
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USAID	United States Agency of International Development
WCS	Wildlife Conservation Society
WTO	World Trade Organization
WWF	World Wide Fund for Nature

Background

This study of timber flows within, to and from Madagascar 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 Madagascar 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 Madagascar 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 Madagascar, was prepared by Nicolas Blondel.

Executive Summary

Madagascar has a total land area of 58 million ha. The natural forests cover some 9.4 million ha, consisting of rainforests and dry forests, being characterized by unique biodiversity values and high rates of endemism. About 1.7 million ha of these forests are being protected, in the form of national parks and reserves. The goal is to increase the area under conservation.

The area of forest plantation has increased substantially between 2005 and 2008 (about 25 000 ha planted per year). It started with the planting of eucalyptus in the 1930s (about 80 000ha), to be followed by large plantations of pines in the 1950s and 90s (about 100 000ha). Exact figures are not available, but the plantation resource is of the magnitude of some 280 000 ha

One characteristic of the forest resources in Madagascar is that given that the country is a world-class biodiversity hotspot and centre of species endemism, with most of it being concentrated in forest ecosystems, the policy and the management of these resources have been much influenced by conservation.

The export of wood-based products consists of 80% of sawn wood (of which more than half is softwood) while other wood products account for the rest. The proportion of logs in the export of timber products has decreased significantly in recent years. And at the same time the amount of hardwoods exported has gone down from some 75% to 10%, being replaced by timber from plantations.

Three main groups of tree species are exported by Madagascar. The first one is coniferous species (pine) from the plantations of the central highlands. The second one is precious hardwood timber species from the natural forests of the east coast and escarpment, consisting of “rosewood” (4 Dalbergia species) and smaller amounts of ebony (Diospyros sp) as well as "palissandre" (Dalbergia sp). Then there are other hardwood species from natural forests that are exported in smaller amounts. The main destination countries are France, i.e. Metropolitan France, La Réunion and Mayotte, followed by China and the non-French nearby islands in the Western Indian Ocean. This means that about half the export of timber products from Madagascar goes to the nearest islands; Mauritius, La Réunion, Mayotte and Comoros. It can be expected that those islands will continue to have a great demand for wood based products.

The productive forests in Madagascar are administered by the Direction General of Forests in the Ministry of Environment and Forests. Protected forest areas are managed by Madagascar National Parks as regards National Parks and Special Reserves.

The Forest Policy of Madagascar, as well as the Forest Law, was first introduced in 1997. The Forest Law is complemented by a series of decrees, including one from 1998 regulating logging operations. According to a ministerial order from 2006, logging of rosewood and ebony is forbidden, even outside protected areas.

The legislation regarding export of wood based products has changed many times over the years based on two parameters; the tree species and the degree of processing. There are presently three levels of processing; round wood, semi-processed wood and finished products, which leaves some space for interpretation.

The legal framework with its rules are all robust and relevant, however, law enforcement is weak, particularly as regards logging and timber trade. Limited human resources in the forest administrations and a shortage of transport prevent a presence at logging sites. Beside these logistical constraints and the scarcity of controls to enforce the law, another concern is the scarcity of real sanctions in case of ascertained illegal logging.

The forest administration does not maintain much transparency in the sector, especially on questions related to wood trade. Reliable data on the sector is not easily available, accessible and published. The procedures themselves, when they are applied, are in many cases not transparent as regards the issue of different types of permits, how controls and law enforcement is carried out.

A 1000 ha forest concession is the only forest operation which is certified in Madagascar. The products are sold on the domestic market or exported to neighbouring island countries.

Ninety five per cent (95%) of household energy needs are covered by fuelwood. The eastern rainforests are mainly providing firewood, while dry forests and woodlands of the west and south of the island are highly tapped to produce charcoal. Increasing demand for charcoal in neighbouring countries with limited forest resources could increase the pressure on the Malagasy resources. The biggest problem of the charcoal sector is that there is little control: absolutely no control of where the cutting takes place, and little control on the transport.

The processing of wood-based products in Madagascar is done in an informal way, manually or in small-scale units. Logs are often squared by hand or sawn manually in or near the forest, resulting in a poor rate of utilization. Madagascar used to have a proper wood processing industry, including sawmills distributed across the country, the production of veneer and panel products in addition to carpentry shops and industrial furniture making. But this industry has declined slowly during the last years. Another trend has been the reduction of French-owned industries, progressively replaced by Chinese or Indo-Pakistani operators. Today, only a few industrial sawmills are operating, often including facilities to further process the wood, particularly carpentry and joinery.

The importation of wood-based products is dominated by paper. The main supplier is South Africa, followed by China and then by EU. China also supplies some processed timber products.

For a start, "legal" wood trade seems to have a very limited meaning in Madagascar. Improvements in forest management are a prerequisite without which the initiation of a FLEGT process would have limited impact. Similarly, the development of certification schemes will be a difficult task in a situation where the majority of exports are more and more towards Asia. To provide support to monitoring and disclosing of information on what is going on in the sector remains essential. At the same time, while institutional reforms are difficult to influence, it remains highly desirable to support on-site actions towards improved forest management, in the form of strengthening management to local communities and support to private forestry.

1. Introduction

Madagascar has a total area of 58 million ha, and an estimated population of approximately 21 million people (FAOSTAT 2011).

Forestry is estimated to contribute less than 3% to the GDP[1], and until recently it provided only 2% of exports by value, earning US$ 26 million per year (2005-2007). However, due to a dramatic increase in the exports of precious wood this contribution to exports rose, according to some estimates, sharply to about 8% in 2009 and 2010 (based on data in RANDRIAMALALA & LIU, 2010). Only very partial figures are available on the revenues of the government coming from forest resources (LEWIS & RAHAGA, 2008; FAO, 2010). Among these revenues, BALLET & RAHAGA (2009) estimate that, in the regulatory context of that year, the government earned approximately US$ 22 million from precious timber exports in 2009 (taxes and fines).

2. The Forest sector

2.1 Forest resources

The most recent and verified set of data on forest resources in Madagascar can be found in the study on the production and consumption of wood forest products conducted by the JariAla project (GISC, 2009). In this study, the areas of natural forests considered come from another study (MEFT, USAID & CI, 2009) and concern 2005, while the areas of plantations come from the National Ecological Forest Inventory (IEFN) of 1996.

Natural forests of Madagascar, defined as closed canopy forests or woodlands, covered 9.7 million ha in 2005. This excludes degraded natural forests with open canopy. From the ecological point of view, they can be grouped in 4 main types (IEFN and other existing botanical/ ecological studies consider more classes) (see **Figure 3** of the forest cover ***in Annex 3***):

- **Rainforest**: due to human occupation, rainforests have long been cleared in the coastal plains (except on the Masoala peninsula) and today occupy a more or less continuous strip of land along the eastern escarpment. The main differences compared to the rainforests of the African continent are the following: (i) Madagascar rainforests are exposed to cyclones so that the diameters of the trees are limited (not more than 1.20 m DBH for most canopy species); (ii) the majority of the tree species are endemic and the proportion of hardwood species is high, up to 50%; (iii) in most places, once cleared for the first time for shifting cultivation, the forest does not come back as a "forest fallow" preceding a secondary forest but is rather replaced by a durable herbaceous fallow, so that clearing is basically an irreversible process. Primary forest, strictly speaking (where no man has ever set foot), still existed in the large forest tracts of the north-east (Masoala, central Makira) a few years ago, but this is no longer the case, due to the sudden expansion of illegal rosewood logging.
- **Dense dry forest, deciduous**: it occupies the western part of the country (except the south-west), where the dry season is long.
- **Spiny woodland**: the spiny woodland occupies the drier part of the country, that is to say the extreme south and south west. This vegetation is also rich in hardwoods.
- **Mangrove**: present in most estuaries all around the country but the main expanses are on the west coast.

Note: in between the regions where these 4 main forest types occur, the central highlands of the country look rather bare and are mainly covered by grasslands. The only forest resources encountered there are plantations, narrow

[1] http://www.indexmundi.com/facts/madagascar/natural-resources-contribution-to-gdp . These figures exclude fuel wood and other timber and non-timber forest products directly consumed by the rural population or sold in local markets.

degraded gallery or incision forest and less than 260,000 ha of open woodland of *Uapaca bojeri* (Tapia), none of which are included in the figures of MEFT, USAID & CI, 2009.

As regards their status, Malagasy forests are characterized by a unique biodiversity and a very high rate of endemism. For this reason, in 2003 the president declared at the World Park Congress the will to increase the protected areas from about 1.7 million ha to 6 million ha, an objective that has been called "Vision Durban". Due to their ecological characteristics, most of these forests concern natural forests. As part of the process, the System of Protected Areas of Madagascar (SAPM) has been designed by the Government with the support of its technical and financial partners, taking into account the preoccupation of avoiding fragmentation and maintaining forest corridors. SAPM has been implemented since its establishment and it has made significant progress. As a consequence of the process of extension of the protected areas, natural forest resources can be classified in four categories, according to their protection or management status:

- *"National Parks"*, *"Special Reserves"* and *"Integral Natural Reserves"* (existing protected areas, for conservation mainly) are managed by Madagascar National Parks (MNP), formerly called National Association for the Management of Protected Areas (ANGAP), which is a parastatal organisation. There are 19 national parks and 28 reserves in this category, covering an area of forest of about 1.3 million ha.
- A number of sites are *"Protected Areas with a temporary protection status"*, which practically means that they have been pre-gazetted and are considered as existing protected areas. Like the following categories, they are normally managed by the Forest Administration but their management can be delegated to other public or private entities, which is the case for some of these sites.
- The next category of forest sites is called "*New Protected Areas (NAP)"*. It is made of priority sites for SAPM, that is to say protected areas to establish.
- Finally, the rest of the natural forest areas that are neither protected areas nor planned to become protected areas, are dedicated to sustainable forest management and production. They correspond to the concept of *"KoloAla sites"*, which will be explained and discussed further in this report. Another synonymous term in use *is "Site of Sustainable Forest Management"* (SGFD).

N.B.: Forest component of SAPM + SGFD = all natural Forests.

The figures regarding forest areas are gathered in **Table 1**.

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

Situation in 2005 (adapted from GISC, 2009).

Type of forest or woodland	Existing protected areas (ha) (**)	New Protected Areas (ha)	Other forest resources, for sustainable production (ha) (***)	Total forest resources (ha)	Proportion
Rainforest (*)	2,328,820	566,163	1,699,740	4,594,723	47%
Dense dry forest (*)	627,252	382,383	1,540,577	2,550,211	26%
Spiny woodland (*)	875,903	291,457	851,094	2,018,453	21%
Mangrove (*)	79,530	117,271	61,565	258,366	3%
Total plantations	-	-	291,305	291,305	3%
Pine plantations	-	-	140,908	140,908	1%
Eucalyptus plantations	-	-	150,397	150,397	2%
Total forest resources	**3,911,505 (7%)**	**1,357,274 (2%)**	**4,444,280 (8%)**	**9,713,059 (17%)**	**100%**
Total land area Madagascar				58,154,000 (100%)	

Notes:

(*) Definition of natural forests and woodlands (first 4 lines of the table) in the study of MEFT, USAID & CI (2009): canopy cover at least 80%, canopy height can reach at least 5 m, stands larger than 2.5 ha.

(**) The column "Existing protected areas" includes National Parks, reserves and Protected Areas with a temporary protection status.

(***) In the context of the Vision Durban process of extension of protected areas, the area of forest available for sustainable production depends on two factors. The first is the respective size of protected areas and other forests. In this table, the breakdown between management categories reveals what is planned, i.e. the situation when the process will be complete (even though the total forest area concerns 2005). The second factor is the fact that the system of management of the new protected areas has been discussed since 2003, in particular the question of whether some harvest of wood could be allowed in these new protected areas. Some have argued that new protected areas could belong to category VI of IUCN ("managed resource protected area") (IUCN, 1994).

The Order of 17 November 1930, revised by the Order of 29 November 1943, classifies the Malagasy timber species in 5 grades ("categories") of commercial species. Certain regulations make distinctions based on these categories. Please refer to ***Annex 5*** for more information on these grades.

Practically speaking, the main types of commercial species, depending on their origin, destination and price are as follows. First, *precious hardwood timber species* from natural forests: "rosewood" (*Dalbergia louvelii*, *D. maritima*, *D. normandii* and *D. madagascariensis*; local name Andramena) and ebony (*Diospyros sp*; local name Hazomainty). Secondly, a variety of *other hardwood species* from natural forests that are harvested for various uses: Hintsy (*Intsia bujuga*), Nanto (group of genius of the family *Sapotaceae*), Katrafay (*Cedrelopsis grevei*) , etc. One group of species is intermediate between the group of precious woods and the group of other hardwoods: "palissandre" (*Dalbergia sp*; local name Hazovola). Palissandre is sometimes considered as precious by the legislation, sometimes not, depending on the regulation issued. Harvesting in natural forests is done by skimming the species which reach the highest price on the markets. As a rule, these particular species tend to be overharvested, while the range of other "common hardwoods" tends to be poorly known, even by participants in the timber value chain, and under-harvested. In the markets of the capital and the central highlands usually palissandre and Varongy (*Ocotea sp*) are clearly identified and set aside by the traders, while all other woods are classified as "ordinary wood" or "forest wood". On local markets of coastal regions, where housing in villages and towns is mainly made of timber, pillars and poles of durable wood species that can be exposed without rotting are highly valued and markedly overharvested.

The main threats against forest resources in Madagascar are first slash and burn cultivation, locally known as "tavy", which affects the eastern rainforest to a high degree but also the other forest types of the country. The second threat is extensive woodland harvesting for charcoal making, which affects seriously some forest and woodland areas around the capital and the main cities where the road network is within reach. The main area of concern for this charcoal threat is the south-west of the country. Bushfires are the next threat in various regions, but they affect seriously the plantations of the central highlands. Informal or industrial mining is also a serious preoccupation and in many areas it can be considered as a competing land use. Anarchic logging affects most accessible natural forests and is a real cause of concern in plantations where it represents in many cases much more than a thinning. The national rate of deforestation has slowed down during the last years; it was 0.83% per year during 1990-2000 and has become 0.53% during 2000-2005 (natural forests, MEFT, USAID & CI, 2009). Moreover, about 50,000 ha of natural forest are lost per year (2000-2005). Deforestation rate within established protected areas has been significantly lower than in other forest areas.

The area of exotic plantations in Madagascar is estimated to be around 250,000 and 300,000 ha, without however this figure being very precise. In fact the resolution of IEFN had as a result the non-identification of woodlands smaller than 16 ha, which represent presumably a large area in total. This resource comprises the first extensive Eucalyptus plantations made in the '30s along the railway line from Antananarivo to Tamatave. In spite of their age and the fact that they have sustained a very large number of coppicing cycles, these ~80,000 ha of Eucalyptus stands are still one of the main sources of charcoal for the region and the capital. The main species are *E. robusta*, *E. camaldulensis* and *E. citriodora*.

From the '50s to the early '90s several programs funded by the World Bank established vast plantations of pine in the central highlands, with the initial objective of supplying plants producing paper pulp for export. The plants never materialized, but as the genetic origin of the seeds was of good quality, today these extensive plantations are one of the main sources of timber both for use within the country and for its exports. These are on the one hand the plantations of Haut-Mangoro (Fanalamanga) near Moramanga (about 80,000 ha), and the plantations of Haute-Matsiatra near Fianarantsoa (more than 20,000 ha). The species are by order of importance *Pinus kesiya*, *Pinus patula*, *Pinus caribeae*, other *Pinus sp*.

The Forest Administration reports that huge areas of new forest plantations have been made in recent years (FAO, 2010): *"The area newly planted between 2005 and 2008 is about 25,000 ha per year, with a spectacular increase during the campaign 2007/ 2008 (34,000 ha) partly due to the promotion of industrial afforestation"*. Figures of the same source for 1998-2002 show that 3600 ha were planted per year. But it is not established whether all that has been effectively achieved or if these data are planning figures.

As to the land tenure aspects, the different types of ownership of Malagasy forest resources are the following:

1. Natural Forests:
    - part of them are Protected areas and belong to the State;
    - the majority are **public forests**. 3 types are distinguished:
        - the "private forests of the State", synonymous of Forest Reserves ("Forêts Classées");
        - State-owned forests ("Forêts Domaniales");
        - the forests of decentralised authorities ("forêts des collectivités territoriales décentralisées");
    - some are **private forests**, mostly originating from colonial times and inherited: about 240,000 ha, mainly in the Eastern, Northern and South-Eastern parts of the country (FAO, 2010);
2. Forest plantations:
    - eucalyptus plantations: often considered **private woodlands**;

- pine plantations: most of the time considered as **public woodlands**. It should be noted that the plantations of Haut-Mangoro belong to a State-owned company ("établissement public") (Fanalamanga) but these are subject to the same rules of access to the resource as the private forests (LEWIS & RAHAGA, 2008).

It should be noted that in public forests, the State who is the owner, can transfer the *management* of the forest to local communities, following the system of "management transfer" established by the law. The products of the forest are then owned by these communities, but the land remains the property of the State. Some 233,000 ha are under such a contract of transfer of management, of which 59,000 ha are mangroves (FAO, 2010).

While these last years there has been some move to establish new privately owned tree plantations and land grabbing in agriculture has given rise to intense political discussions and movements, land grabbing in forestry is currently not mentioned as an issue. **Table 3** in ***Annex 5*** summarises some of the characteristics of Malagasy forest resources.

2.2 Influence of political instability and precious wood logging on the forestry sector

After the political crisis of 2001-2002, during the period between 2003 and 2006/ 2007, the broad sector of the "environment" (including forests) received more attention, and forest governance experienced tangible improvements. From 2007 or 2008 onwards, this process started losing momentum and the change of political regime in early 2009 (beginning of the Transition), caused a severe weakening of the State in general and the interruption of most governmental aid programmes of international donors and organizations included in the forestry sector. In the meantime, since the '90s, Madagascar had evolved from a fairly isolated country into an economy more and more open to the rest of the world and influenced by globalization and international demand in timber products. Over the same period, due to a particularly dynamic demography, the pressure on the forest resources continued to increase steadily. As a consequence of all this, the political crisis of 2009 had bad consequences for the forest heritage in 2009 and early 2010 and a situation of stagnation, if not slump, of the forest governance ensued.

Within this general picture, one particular problem, initially of local impact, has become very significant these last years and now draws significant attention: illegal logging of rosewood. Illegal logging of this precious timber from the natural forests has been a source of concern since the year 2000 in the region of the north-east of the country, where some of the largest and richest expanses of rainforest are found, among which are major protected areas. This problem has been quite severe during the past decade. However there were periods when illegal logging and precious timber trade were brought under control. This was the result of two opposite forces; the lobby of rosewood logging actors on one hand and the lobby of forest protectors on the other hand, one overcoming the other in an alternate way (lobby is here used in a wide sense, including the various public institutions concerned).

During 2009 and due to the political events and instability that the country experienced, an unprecedented crisis of illegal logging developed. This was also fuelled by the very high prices offered for that timber by the Chinese buyers. The scale of this crisis has been so important that the problem has become a national political issue and has prompted widespread international reactions. The crisis of 2009-2010 has receded, but the problem is not solved and remains very sensitive. The rosewood issue needs to be covered properly in this study, all the more so as it has been influencing decisions on the whole forestry sector for some time now. However, this particular question should not distort the analyses and it is important to consider forest governance, forest resources and the forest sector in Madagascar as a whole, without overlooking other important burning issues.

3. CITES

Madagascar signed the convention form the beginning in 1975. But a tacit internal policy has been not to ever propose any timber species. There has always been a wish to avoid any international involvement in Malagasy timber issues. For example, although it is not a timber species proper (it is threatened by the trade of its bark), *Prunus africana* was listed among the country species in Annex II mainly due to international pressure.

When the precious wood logging crisis of 2009 burst out, following the general outcry about this situation, the country could not avoid the addition of all rosewood species and ebony species to Annex III of CITES, in relation with the application of the Decree 2010/ 141 of 24 March 2010 which had been enacted in the meantime and forbids the export of these species. So currently this is in force at the international level but the actual impact of this measure remains to be determined and addition of a timber species in Annex III is new to the Malagasy authorities who are still feeling their way. They regret that after 1 year until now they have not received any news from other countries about any seizures.

Since 2010 the Malagasy authorities have felt that they need to go further regarding precious woods and for this reason they are preparing a file to apply for the addition of these species in Annex II (MEF, 2011). This application could be examined only in March 2013 at the next conference of parties.

Yet, one of the practical difficulties which has been met from the beginning and will continue to be met is the number of species concerned and the difficulties to identify them as much when they are standing trees in the forest as when it is processed wood (list and description of the trees, list and description of the woods AND correspondence between the two lists). There are at least four species of rosewood, about 40 species of palissandre (rosewood and palissandre belonging to the same genus *Dalbergia* so not remote at all) and about 90 species of ebony (genus *Diospyros*). The solution adopted has been to list groups of species or all species of those genera, but nevertheless a huge amount of study and description of these species is needed to prepare the file for the Annex II application. This work has been on-going with important time constraints, with the participation of several scientific institutions. It should be noted that the listing in Annex III concerned rosewood and ebony, while the file for the application for Annex II concerns rosewood, ebony and palissandre.

The forest administration is worried about the ability to control the situation as regards rosewood and somehow fears sanctions. Indeed, with a relatively small number of species on the CITES annexes, Madagascar is already affected by several sanctions like in the case of *Prunus africana*. For this species (Annex II), Madagascar has been allocated a nil quota of export in the last years, until some correction measures have been taken to improve the monitoring and management of the resource. It is also clear that the circles under the influence of the lobby of the rosewood trade are strongly opposed to the addition of these species in Annex II.

4. The Forest Administration

Generally speaking, the production forests in Madagascar are administered by the Direction General of Forests (DGF), of the Ministry of Environment and Forests (MEF). Besides production forests, forest protected areas are managed on the one hand by Madagascar National Parks (MNP) as regards National Parks, Special Reserves etc. and on the other hand also by DGF as regards Protected Areas with a temporary protection status and New (future) Protected Areas. For the latter, DGF can delegate the management to other entities. It can be noted that MNP as a parastatal attached to the same ministry relies on DGF for the prosecution of offenders who have carried out illegal activities in national parks.

MEF is one out of 36 ministries currently. According to the draft national financing law (Loi de finance, HAT, 2011), the budget allocated to the MEF for 2012 is 610,643 € for operations and 5,349,353 € for investments, the total representing 0,9% of the budget of the State (21st rank out of 36).

The responsibilities and the general organization of the Ministry of Environment and Forests are defined in the Decree 2010-043 (modifying the Decree 2009-576). The corresponding organizational chart is presented in ***Annex 9***. The ministry, under its Secretary General (SG), is organized in two branches at central level, DGF on the one hand and the Direction General of Environment (DGE) on the other hand, plus what could be called a third branch formed by the "attached organizations" (Organismes Rattachés: MNP, ONE, ONESF, Fanalamanga: see below).

At decentralized level there are 22 Regional Directions of Environment and Forests (DREF) (territorial level: Regions), then District Offices of Environment and Forests (CEF, Cantonnement de l'Environnement et des Forêts) (territorial level: Districts) and finally in some cases Local Offices of Environment and Forests (Triage de l'Environnement et des Forêts) (territorial level: Communes, a few of them have an office). Among the 22 DREF, 3 which have rich resources and intense activities have one additional CIREF office (Circonscription de l'Environnement et des Forêts) in a secondary regional centre. The DREFs report to the SG of the ministry, not really to the DGF, as they work on Forest *and* Environment aspects.

In this report, "the forest administration" means the DGF and the DREFs, except the environment departments of the latter. This represents 700 civil servants plus 400 officers on temporary contract (FAO, 2010). 1100 officers / 8,413,000 ha (forest area except National Parks) = 1 officer / 7600 ha. Among these 1100 officers, 194 form the DGF at central level.

Based at central level, the DGF is divided in 3 branches, (i) the Direction of Utilization of Forest Resources (DVRN, in charge of forest management, afforestation, forest harvesting, forest fiscality and CITES permits), (ii) the Direction of Biodiversity Conservation and the System of Protected Areas (DCBSAP, in charge of the creation and management of non-MNP protected areas) and (iii) the Direction of Control and Improvement of Integrity (DCAI). The existence of this DCAI, distinct from the other directions, is a fairly recent development aiming at better separating the control roles from the technical roles within the administration. A similar set up exists at regional level within the DREF.

The forest administration in Madagascar has long been recognized as a weak organization which does not function effectively. The main project of institutional strengthening which has worked in recent years to support the forest administration and develop the forestry sector at country-wide level is the USAID-funded project JariAla which operated from 2004 to 2009. Other projects such as GESFORCOM (EU funds, 2007-2012), COGESFOR (FFEM funds) and PGM-E (GIZ) have also worked in the same direction. However, this process of support to the reform was stopped in 2009, after only incipient results, when the governmental cooperation stopped. The main weaknesses of the administration are as follows:

- insufficient capacities to fulfil the tasks assigned to it. The forest administration appears overwhelmed and cannot handle what is needed to maintain the forest resources, which are in continuous degradation. This suggests a need to reorient its roles and duties and to focus it on its core missions. The principle of such a reorientation would be to promote the delegation of the forest

management by the administration to other entities and to focus the administration on the design and orientation of the forestry actions, the awarding of the management / harvesting contracts and on the monitoring and controlling of the latter activities;

- poor organization and low motivation;
- loss of authority (if not a tarnished reputation);
- unstable administration. Quite a few resource people met during the study have mentioned that one of the important problems of the forestry sector, is that due to the turbulences caused by the rosewood issue (and sometimes other issues), the minister changes often, and each time, the SG, the DGF and up to the DREF also change. As a consequence of this very high turnover (6 successive ministers in 4 years since 2008), Regional Directors are not given enough time to properly know the forest resources they administer. And at ministry level, an in-depth, thorough reform of the sector and a sustained policy of development of the sector would be very difficult to lead in those conditions.

With the beginning of 2009 the situation has worsened and the forest administration is clearly not operating normally. Just a few days before the mission of this study started, the Minister of Environment and Forests was dismissed, following controversial measures he had taken in the management of the precious wood situation (especially the issuance of ministerial Order 0741/2012 of 18 January 2012, implying risks of renewed illegal logging). Since then the position has been taken over by the Prime Minister (this mission coincided with the hand-over period). Some aspects, among others discussed further, which reveal the malfunctioning of this administration are the following.

The first one is that the data possessed by the administration from the field level to the central level are most of the time very fragmentary, in some cases out of date and often not standardized to such extent that sometimes they simply cannot be used.

Beyond problems of weak capacity to manage information, a number of non-governmental stakeholders have expressed during the study the conviction that the forest administration has long maintained a tradition of opacity in the different areas under its control.

At the time of this mission, the forest administration was gradually resuming work after three months of a strike that was started to protest partly in relation to some points concerning employment advantages/status, but mainly to protest against the fact that the staff of the administration was systematically blamed in the debates on rosewood logging, while they feel that problems of bad governance originate from higher up, i.e. at the political level (with particular reference to the above-mentioned ministerial Order 0741/2012 of 18 January 2012).

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

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

The general observation is that the rules and the framework exist and are relevant, the problem is how they are applied.

5.1.1 National forest policy

The national forest policy is the Decree 97-1200 of 2 October 1997. It is a strong document giving good orientations based on sound principles.

One characteristic of the forest resources in Madagascar is that given that the country is a world-class biodiversity hotspot and centre of species endemism, most of it being concentrated in forest ecosystems, the policy and the management of these resources has been much influenced by conservation. In spite of difficulties, challenges and imperfections, the Vision Durban has been implemented and there has been real progress in the last 6 years. Today close to 6 million ha of protected areas have been effectively (pre-) gazetted and are managed or are in a process of being managed (~10% of the national land area). In Madagascar, a plan exists, a strategy exists for forest conservation, but unfortunately no such strategy exists for forest production. The JariAla project and other few forestry projects started to address this fundamental gap in the last decade, but the process is stalling. Today, planning or nation-wide "management" of forest resources is still in its infancy.

Among the international and national agencies (technical and financial partners) supporting the forest sector as a whole, a certain distance or rivalry is felt between some who could be called conservation "sympathizers" on the one hand and forestry sympathizers on the other hand (the latter are few), although this distinction is not entirely clear-cut. This difference of point of view should disappear as there is room for both aspects, conservation and production, and both are needed. However, if achievements in conservation are essential, wood production has not received enough attention and tends to be neglected, and it will become a source of preoccupation for the nation.

5.1.2 Forest legislation

It is generally recognized that Madagascar has a good "bedrock" of laws concerning forest resources, but it is also recognized that the actual implementation of these good laws, especially certain aspects of them, is based on a heap and an entanglement of subsidiary pieces (orders, decisions, notes, etc.) that are continuously passed.

A tentatively comprehensive list of texts of the legislation regulating the forestry sector, with emphasis on wood production, harvesting, trade and export, is presented in ***Annex 4***, by main subjects and then in chronological order. It is updated and tries to indicate which texts are no longer in force. It is gathered from the forest administration, RAMBININTSAOTRA & ANDRIANANTENAINA (2010), ONESF (2010) and a few other sources.

One of the defects of certain texts of the forest legislation is the disregard for the normal hierarchy of texts (the normal hierarchy is presented in ***Annex 4***). Furthermore, the texts of highest rank (Constitution to Decree) are stable as they are enacted through a full legislative process, but the texts which are lower in the hierarchy (Interministerial Order to Ministerial notes) are typically "unstable".

In terms of architecture of the legislation, the core documents of the forest legislation are (i) the forest law 97-017 of 8 August 1997, (ii) its application decrees, in particular decree 98-782 of 16 September 1998 regarding the logging regime, (iii) the law and decrees on management transfer (law 96-025 of 30 September 1996 on the local management of natural resources (GELOSE) and decree 2001-122 of 14

February 2001 fixing the conditions of the implementation of the contractual management of the forests of the State (GCF)) and (iv) the law 2001-05 of 11 February 2003 concerning the Protected Area Act (COAP).

On these solid foundations a series of application regulations are issued, to such extent that it is sometimes difficult to know what is actually legal and that even professionals of the forestry sector do not have a totally reliable knowledge of the subject.

(I) Main provisions of the legislation to mention:

National zoning and protected areas:

The COAP is applied to all protected areas, whether they are managed by MNP or they are managed by the forest administration (protected areas with a temporary protection status and, in the future, New Protected Areas). It should be noted that a thoroughly revised version of the COAP, taking into account the recent developments in the implementation of the Vision Durban, was adopted by the Parliament in 2008 but since then has not been actually enacted, so that the application of a number of new aspects is still pending.

The Order 18633 of 17 October 2008 confirms and makes official the zonation presented in chapter 2 which distinguishes sites for protected areas and sites for sustainable production.

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

In the present condition of the legislation, these rules are not straightforward. The best explanation of the different possibilities can be found in LEWIS & RAHAGA (2008). We summarize it and give the current situation here. There are 7 possibilities to receive authorization to extract wood (7 possible legal origins of wood):

Private forests and woodlands[2]:

(a) Authorization of cutting ("autorisation de coupe") in private forest / woodland. There is no forest tax ("redevance forestière") to pay by the owner. Based on the authorization, the owner receives a laissez-passer and / or an authorization of transport to remove the products. The authorization of cutting in private forests is one of the covering channels often used to carry out illegal logging.

Public forests and woodlands: in private forests of the State ("forêts classées") and State-owned forests ("forêts domaniales"), the forest tax has to be paid by the logger (titre de prélèvement "à titre onéreux"), while in the forests of the decentralized authorities ("forêts des collectivités décentralisées") the sale of the wood is for the owner so there is no forest tax applied. In all these forests, adjacent communities can extract wood for their own local non-commercial use (which corresponds to the concept of "droits d'usage") and there is no forest tax applied on that ("à titre gratuit").

(b) Cutting permit in the framework of local non-commercial use by adjacent communities ("droits d'usage"): it concerns limited amounts.

(c) Cutting permit in a management transfer ("permis de coupe"): this applies when the management of a public forest has been transferred to the local community (CoBa). The forest tax is to be paid for commercial logging ("valorisation"). See more details below. The cutting permit is delivered by the DREF and is valid for 1 year (renewable until quotas have been used).

(d) Logging convention ("convention d'exploitation"): since 2001, all "logging permits" (old term) except (b) and (c) have to be delivered through a tender process and should be based on a logging inventory. As a consequence, a logging convention concerns a forest or part of a forest (even a plot) (the term given in the legislation is a concession, the term in common use is "lot d'exploitation"), is valid for maximum 3 years and is allocated through a tender process. The recipient of a logging

[2] They include Fanalamanga pine plantations.

convention needs to be accredited by the forest administration ("agrément") as an official logger. In this system a logging authorization needs to be delivered every year. The object of the convention is only harvesting. The logging is based on a "management plan" to be prepared by the forest administration.

(e) Management delegation: this system is meant to become an important way of allocating the access to the resource. The principle of this management delegation is included in the forest law but the proposal of decree that details the modalities of application has not been adopted. It is equivalent to a "management transfer" but the latter only concerns a transfer to local communities while here the management is delegated to public or private persons. Compared to a logging convention, the management delegation is designed for large areas (10,000 ha e.g.) and long periods (30 years e.g.) and does not include only logging but also the management of the resource. In this system, the authorization to log is given through the approval of the annual workplan.

(f) Various authorizations of extraction, for example authorizations for the collection of dead wood after a cyclone ("autorisation de collecte pour le ramassage de bois après cyclone"). This type of authorization is a source of major abuse (live trees are cut instead). Some of these various authorizations originate from old regulations (example: "autorisation d'évacuation") but the use of such out-of-date authorizations to launder wood illegally cut is a kind of practice that is regularly encountered.

(g) The sale of seized wood by the administration can be added as another possible "legal origin" of wood.

(h) It can be added that according to the ministerial order 16 030/2006 and the decree 2010-141, logging of rosewood and logging of ebony is forbidden, that is to say it is forbidden even outside protected areas.

Assessment of the situation regarding management transfers: (see logging title (c) above)

From the legal point of view there are two types of transfer of management of forest resources, GELOSE and GCF. GELOSE, the first system implemented, involves the forest administration, the local communities organized in structures (CoBa or VOI) and the local authorities (Commune). GCF is a subsequent and somewhat simplified version of the GELOSE, which does not need so much to involve the local authorities.

In a bit more than a decade, hundreds of management transfers have been signed across the country. Although the law on management transfers is well designed and strong, and although all national stakeholders concerned about forest management agree that management transfers are a necessary system and a good system, some weaknesses and shortcomings are obvious.

As a consequence, too many management transfers that exist on paper are actually devoid of substance on the ground, management transfers are too often used to launder timber illegally logged, and recently a lot of contracts have not been renewed for lack of sustained interest or lack of proven seriousness.

Recently, given the anarchy that had developed in some management transfers involved in commercial logging, the ministry suspended all authorizations for logging until the completion of a case by case evaluation. Currently, only the site of Didy in Aloatra Mangoro Region, where the process is supported by the CIRAD (COGESFOR and GESFORCOM projects), is allowed again to log for commercial purposes, following a positive evaluation. Logging activities are suspended in all other management transfers.

Additional information on the management transfers can be found in ***Annex 5***.

Assessment of the situation regarding management delegation and logging conventions: (see logging titles (e) & (d) above)

When the JariAla project started supporting the application of the new system of allocation of logging authorizations through tenders, the management delegation was tested on a few pilot sites (KoloAla or plantations) after designing tendering procedures, between 2006 and early 2009. However, as these sites are large, sufficient professional capacities are needed to manage them. As there are few really professional operators with sufficient capacities in Madagascar, the majority of logging operators have complained that the procedures of the tenders initiated for the delegation of management were too heavy, especially the bank guarantee. On the other hand, the administration was concerned that something had to be done about the lack of legal alternatives to produce wood and address the issue of the national wood consumption. That is why the system of logging conventions was then used between 2007 and 2010, with lots of 50 to 300 ha only (total 15 conventions = 2006 ha). In a way, the conventions have been used as a short-term compromise system.

This small number of conventions issued and the absence of new conventions and management delegations after 2010 can be explained by several factors: procedure still needing fine-tuning and not yet established as a regular practice within the administration (problem of ownership?), end of the JariAla project and its support to the process, difficulties to mobilize resources to conduct the forest inventories of new sites although these had effectively been identified, fear that if too much logging is authorized it can become out of control (example of the rosewood, example of management transfers, see above). **Anyway, today in Madagascar the only valid authorizations to log for commercial purposes are the few sites where management was delegated, one logging convention that has not expired yet (250 ha in Maintirano, Melaky Region), the management transfer of Didy forest (Region Aloatra Mangoro), any permits in private forests and the Fanalamanga pine plantations.**

Generally speaking, on the ground the forest administration has never been enthusiastic about the system of logging titles issued through a tender process as it has been tested in 2006-2010 because it is transparent and is no longer at its discretion.

The process allowing export:

Due to various influences, authorization or interdiction by the legislation to export wood products has been changing continuously over the years and depends on two parameters:

- the species or category (grade);
- the degree of processing, for which three degrees are recognized in the legislation: (i) round wood ("bois brut"), basically logs; (ii) semi-processed wood ("bois semi-travaillés"), mainly sawn wood and (iii) finished products ("produits finis"), such as furniture, handicrafts, etc. This has given rise to various interpretations and abuses. The Order 0741-2012 tried to give a more accurate definition but for other reasons has been abrogated, so that the current definition of these three degrees is in the Order 10 885-2007. Examples of abuses or questionable practices are logs hastily and very roughly squared (2 sides only e.g.) to acquire the status of semi-processed wood, and the surprisingly high amount of prefabricated houses exported by the country (finished products, made of palissandre, a valuable wood). Packaging wood (crates, etc.) is also considered as finished products.

Based on this, **Table 9** in ***Annex 10*** is recapitulating when it has been allowed and not allowed to export wood of the different species and types of products in the last decade, following the changes in the regulations issued, and the current situation.

As regards who is allowed to get and export timber, one important characteristic of the forest legislation in Madagascar is that there is not much emphasis on the accreditation of loggers (to be allowed to log, one basically needs to have a logging title (logging convention, etc.)), while there is more emphasis on the need to be accredited to be an exporter (this has something to do with the fact that for precious woods, the legislation regularly authorizes the *export*, while it hardly ever authorizes the actual *logging*). This explanation is given to clarify the fact that the term "accredited operator", frequently used by the forest

administration and legislation concerns the accreditation as an "exporter". So in the last years, accredited exporters are classified according to legislation texts and the following ones are currently recognized:

- exporters accredited based on Order 003-2009 of 28 January 2009: 13 operators of the rosewood value chain, all from the SAVA Region (Antalaha, Sambava, Andapa, Vohemar);
- exporters accredited based on Order 38244-2009 of 21 September 2009: 23 operators of the rosewood value chain, 18 from the SAVA Region and 5 from Analanjirofo Region. These operators and the previous ones remain accredited even though these orders of 2009 have become null in the meantime;
- exporters accredited based on Order 10 885-2007 of 3 July 2007: 15 operators of the value chain of palissandre and other woods from natural forests (finished products), from Antananarivo, Toamasina and Mahajanga.

(II) Weaknesses of the current forest legislation:

Weaknesses of the forest legislation which are one of the important causes of bad forest governance and forest degradation have been studied specifically by several experts in recent years (JariAla project, CIRAD, ONESF, AVG, PGM-E, FAO), and a number of studies have been produced. Before presenting the main proposals for improvements and their outcome, we try to summarize these weaknesses:

- the texts on penalties are old and the penalties for infractions are very weak;
- the regulations on exports are continuously changing by the repeated issue of new texts which often present the following characteristics:
  - they contradict previous texts still in force: the typical mechanism is an alternation between authorizations and interdictions of exports. Most of this production of texts originates from conflicting interests regarding the precious wood logging but it ends up concerning all timber production and export. **Table 2** in ***Annex 4***, updated from Global Witness and EIA (2009), illustrates this phenomenon for precious wood, but as explained it influences the whole timber sector;
  - they do not respect the normal hierarchy of texts;
  - the end of their validity is often not clear;
  - their issuance represents a permanent and seemingly arbitrary involvement of the political level in the ruling of the sector;
  - there are cases of "regulations" on wood issued by certain authorities who are not entitled to issue them (some by-laws, especially authorizations, illegally issued by local authorities e.g.);
  - some regulations are promulgated explicitly or implicitly in favour of certain operators which violates the principle of equality between citizens;
- even the regulations promulgated to forbid or close the harvest / export of wood (example: in 2006 for rosewood) are diverted from their official objective: any wood encountered is illegal, the officers of the forest administration can seize it and derive profit from the action of seizing, then they release it and the wood re-enters the circuit: most common system, widespread;
- some local permits are around and tend to be used by their owner, and it is not clear if they have been abolished or if they are still valid;
- until now, most legal titles that have been issued to allow logging are logging conventions which concern small areas and a small number of years, so that the loggers do not involve themselves at all in the management of the forest. Currently only a tiny fraction of forests outside protected areas is subject to a valid logging title which has been legally issued.
- the forest fiscality is very complicated, subject to frequent changes and contains insufficient incentives to good forest treatment.

- the National Forestry Fund badly needs reform.

The consequence of this situation is that most of the harvest, transport, trade, and export are not legal.

(III) Existing proposals of improvements to the forest legislation:

The above-mentioned projects supporting the forest administration and trying to improve forest governance have worked on a series of proposals of reforms of the forest legislation in the last years, concerning the aspects which present the largest number of anomalies and causes of malfunction. In this enterprise, introducing new elements, one permanent preoccupation has been to harmonize the different texts and make them consistent with each other. These proposals are listed in ***Annex 4***.

5.2 Other institutional stakeholders

The structure of the MEF presented in chapter 3 indicated that a number of departments were attached to the ministry (under the SG): MNP (see above), ONE, ONESF and Fanalamanga, etc. The role of the latter is as follows.

National Office of the Environment (ONE): this office, whose main role is to deal with the technical aspects of environmental impact assessments of large investments (while the Direction General of Environment issues the official documents subsequently), is one of the national institutions involved in the development of the REDD+ process.

National Observatory of the Environment and of the Forest Sector (ONESF):

ONESF is an institution to monitor good governance of the programs and actions in the environment and forest sector (public or private). The observatory collects, analyses, disseminates and monitors the information and data on the environment and forest sectors. It provides recommendations and forecasts that can serve as orientation or correction elements for any decision or any activities concerning the environment or the forest sector. ONESF can support missions of control and missions of monitoring regarding environmental or forest sector issues.

Given the problems of forest governance in Madagascar, this institution appears to have an essential role to detect and publicize these problems. As part of the interviews of the fact-finding mission, a number of resource people have been asked to evaluate the action of ONESF. On average, there is a consensus to say that this institution is "useful". However, it is also mentioned that it is "a watchdog with no teeth", because it is not independent (subordinate to the ministry). ONESF maintains a web site (www.osf.mg) but it does not seem to provide its technical reports and specific data. Most documents available are sensitization documents of its own or reports from other sources (EIA, etc.) which are available elsewhere on the internet. Otherwise it has a good record of collaborating with other organizations (ONI, NGOs, forestry projects, etc.).

The Fanalamanga public company (Société Anonyme Fanalamanga) manages the large industrial pine plantations between Moramanga and Ambatondrazaka (Aloatra Mangoro Region). Several interviewees during the study mission have mentioned that the Fanalamanga also presents problems of governance of the resource entrusted to it and the press also reports such cases.

The Customs are responsible of a 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) and since 4 years the secondary ports (Vohemar e.g.) have been equipped with computers to handle the database. The customs administration is not so much organized by regions as by offices ("Recettes"), one harbour or one customs store having one office. The cooperation between the forest administration and the customs is reported not to be excellent. In the sensitive sector of rosewood export and therefore of any wood export, the responsibility of disreputable practices is often rejected from one administration to

another. Problems of corruption affecting the different levels of the hierarchy of the customs are reported by RANDRIAMALALA (2011).

The police forces (Gendarmerie and Police) have a role to collaborate with the forest administration in the control of the transport of the wood along the roads and in town. This is especially the case when, after a period of intensive export of rosewood, the Government decides to stop exports. The Gendarmerie conducts joint field operations with the forest administration in rural areas to stop illegal rosewood logging, find hidden rosewood stockpiles and seize them, in periods when exports of precious woods have been banned. MNP, which has very limited powers to arrest offenders (and its agents are not armed), organizes joint patrols in national parks with the Gendarmerie and if possible the forest administration to combat logging of rosewood. These operations with MNP have some impact but they remain expensive and heavy to organize, compared to the flexibility of the loggers.

Since 2005, after each period of authorized export of rosewood, which always drifts rapidly out of control and becomes a large scale crisis of illegal logging in protected areas, when a new regulation is issued to close the tap, a joint force is usually set up, made of agents of the forest administration, of agents of the Gendarmerie and a small contingent of militaries. In the last crisis of 2009-2010 it has been called the Task Force. This force has a similar role to the one described above for the Gendarmerie. Its efficiency remains to be demonstrated. It appears to be costly (compared to the results) and as more and more illegal stockpiles of rosewood are found across the region (each of them worth a considerable amount of money), the role of the force tends to be reduced to the action of guarding these scattered seized stockpiles ("Gardien-séquestre"). Some argue that the Task Force does not have a neutral role and turns a blind eye on the movements of rosewood from the forest in exchange of a certain percentage of the value of the wood, that would explain its nick-name "Tax Force" (RANDRIAMALALA, 2011; other sources).

Decentralized authorities collect some taxes on the sale of timber and charcoal ("ristournes"). Regional authorities sometimes get involved in the regulation of the forest sector, sometimes by relaying the strict message from the capital to protect the resources and by supporting the operations of control, sometimes by issuing irregular by-laws authorizing activities of the rosewood value chain (EIA, 2009).

The tribunals have a major role to play in the protection of the forest as nowadays the level of forest crime has increased in a tremendous way. According to the COAP, infractions in protected areas, such as timber harvesting, are ranked as crimes. The Ordinance 2011-001 of 8 August 2011 significantly increases the level of penalties for the infractions related to precious woods. Nevertheless, the judicial system has long been considered as one of the weakest points, if not the weakest point, of the combat against illegal forest activities. It is also considered not to be independent and to be highly influenced in the rosewood logging cases by the circles promoting the traffic.

The Anti-Corruption Independent Office (BIANCO), reporting to the office of the President, has been involved in a number of enquiries on cases related to the rosewood logging, a sector where corruption is known to be an enormous problem. The details of these actions are not disclosed and their impact unknown.

The Department of Plant biology of the University of Antananarivo is the scientific authority regarding CITES species.

5.3 Other actors

As regards the international technical and financial partners of Madagascar working in the forest sector (agencies and projects), almost all the ones which were engaged in governmental cooperation withdrew from it in 2009 following the beginning of the Transition regime, except NGOs. Generally speaking, no such new programmes are launched and some of the old ones have switched their orientation and go on working with the civil society.

The World Bank used to be the main international agency, supporting the umbrella national environmental program ("PE3") (framework in which other donor supports were fitted). After its withdrawal (political crisis), following the destructions which started in national parks in 2009 (rosewood logging, etc.), it re-opened an emergency environmental support programme, but dedicated entirely to the protected areas.

As a cluster made of the main forest national parks of the eastern regions of Madagascar is a World Heritage Site (rainforests of the Atsinanana), UNESCO is one of the international actors. In response to the crisis of illegal logging of rosewood in 2009, which in fact is mainly concentrated in these national parks, it added this site on the list of Endangered World Heritage Sites. Since then it is monitoring the situation (DEBONNET & MAUVALS, 2011).

FAO implements the project "Support to the governance of the production and marketing of precious woods in Madagascar" (August 2011-July 2013). It is embedded in the DGF and works in the SAVA Region on the rosewood issue and in the Menabe Region on the palissandre value chain. It has 3 components: (i) reform of the forest legislation concerning precious woods as regards logging, marketing and export; (ii) improvement of the governance in that sector, in collaboration with ONESF, ESSA-Forêts and MNP; and (iii) training of the farmers in Analysis and Development of (alternative) Value chains (ADM).

GIZ implements the German - Malagasy Programme for the Environment (PGM-E) which is a forestry project which used to work with the forest administration but has reoriented its activities towards the civil society.

CIRAD has long worked in Madagascar to develop the forestry sector. It has been active the last years through the projects COGESFOR and GESFORCOM, funded by the EU and FFEM, to support community forest management in two sites (management transfers). The main one is Didy forest (Region Aloatra Mangoro), which is one of the sites in Madagascar where a model of sustainable decentralized forest management has been developed and applied in the most comprehensive way. What has been accomplished is also currently threatened by a bout of large scale informal mining which started on the site just before this study mission (more than 10,000 people having gathered to mine inside the forest).

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

International environmental NGOs, especially conservation NGOs, are particularly present, influential and active in the forest sector in Madagascar. They tend to work on long term projects (5, 10, 15 years e.g.), usually on certain sites which are protected areas and/or buffer zones of protected areas, based on the principle of management delegation which also applies to protected areas. As a whole, their funding has reached a similar level as the one of "governmental" cooperation agencies. The main international conservation NGOs present in the forest sector are Conservation International (CI), Wildlife Conservation Society (WCS) and Worldwide Fund for Nature (WWF). MNP has commissioned an investigation by EIA and Global Witness in 2009 and 2010 into the illegal logging of rosewood (Global Witness and EIA, 2009 and 2010).

Beside conservation NGOs several scientific organizations specialized in botany and taxonomy have been working in Madagascar, mainly Missouri Botanical Gardens (MBG), Zoo Zürich and Kew Royal Botanical Gardens. They have actively taken part to campaigns against illegal logging, by publishing articles, by signing letters to the government etc.

National NGOs, associations and projects working in the forest sector are also involved in forestry and / or conservation. Among the main ones are the Foundation Tany Meva, Fanamby, etc. The Association of Forest Engineers of Madagascar (AIFM) basically groups forest engineers of the DGF. The Initiative for Forest Certification in Madagascar (ICFM) gathers forestry professionals concerned about sustainable forest management and implements actions to promote forest certification, with limited means. The association PARTAGE (Participation to the Management of the Environment) implements projects of sustainable forest management with the support of PGM-E, EU and in collaboration with CIRAD.

The Alliance Voahary Gasy (AVG) is a platform of the Malagasy environmental NGOs created in 2009 to unite the civil society organizations in the denunciation of problems of environmental governance. It gathers about 30 member associations (see the main ones above), based on two principles: the Alliance endeavours not to be politically oriented or politically influenced (to avoid being considered as a mere opposition movement) and it includes only Malagasy organisations, not international NGOs. Since then, the Alliance has been very active in the lobbying in favour of improved forest governance and has been instrumental in reducing precious wood logging. In particular, after its creation it introduced an official complaint to the State Council ("Conseil d'Etat") against the very controversial interministerial Order 38 244/2009 of 21 September 2009 granting on dubious conditions further exceptional permits of export of precious woods to certain operators ("requête en annulation"). Such an official action against the State by a civil society organization is a feat and a precedent. Typically, the procedure to process the complaint was never completed: the case was eventually dropped as "null", as "in the meantime the Decree 2010-141 of 24 March 2010, forbidding the logging and the export of rosewood and ebony had been issued". Yet, even though it is difficult to assess precisely how decisive the action of the Alliance has been (compared to lobbying actions from other organizations and people), this action is very important and has definitely contributed to a recession of the rosewood logging problems since 2010.

Among the national institutions taking part to the investigations and debate on the illegal logging is the National Observatory of Integrity (ONI). Unlike ONESF it is not a governmental department but it is an Association, "to guarantee a better independence and credibility in its role of interpellation". This discreet organization collaborates with ONESF in the monitoring of the forest sector and has produced a report which is a good summary and analysis on the issue of rosewood logging (ONI, 2012).

A platform of all these international and national organizations working in the environmental and forestry sector in Madagascar is functional. It is called Consultative Group of the Technical and Financial Partners - Environment (Cercle de Concertation des Partenaires Techniques et Financiers - Environnement: CCPTF-E). Historically, it was the committee of the partners of the ministry in the implementation of the PE3. Now the context has changed as the "governmental" partners no longer talk to the Government, so that the MEF is outside the platform. As a consequence, the situation is particular for the following reason. On the one hand this platform effectively works (there is a meeting of the platform every month) and there is a real dialogue between all these partners, especially a permanent exchange of information, even if different approaches and positions exist. But on the other hand the platform in itself does not have a (direct) impact as it does not talk to the Government (in a way it is outside the system). The NGOs, which have more flexibility, talk to the Government and therefore act as a link between the forest administration and the donor community.

As regards the professional organizations, the private operators and the other actors of the timber value chain, they are the following.

Logging operators:

There are no "logging companies" in Madagascar as they exist in central Africa for example. As logging is hardly ever mechanized (felling and timber extraction) (see point 7.1), a logging operator is basically a businessman who can organize the deployment of a workforce into the forest and possibly of some transport means. Sometimes, it can merely be someone who buys the wood from a network of field "collectors" who are more independent from him. There are very few of these logging operators who can be called "professional" (in the sense that they apply state of the art logging techniques).

There are basically two types of these logging operators. First, there are the operators of the precious wood value chain. These operators and the value chain have been described in several reports (STASSE, 2002; Global Witness and EIA, 2009; RANDRIAMALALA & LIU, 2010; WILME *et al*., 2009). They are most of the time both logging operators and export operators (a few concentrate on the logging without getting involved in the export). Originally, they are from a particular area of the eastern coast of Madagascar in the

SAVA Region. This area is also called "the Green Triangle", because this lush region formed by the towns of Antalaha, Sambava and Andapa has long been specialized in the production of vanilla. And precisely, these rosewood operators are vanilla operators who surfed on the profits of the vanilla trade to progressively switch to the rosewood trade when the prices of vanilla crashed around 2004 after reaching its summit. As a consequence, one of their characteristics is that apart from a couple of exceptions, they are not real "professionals", in that they have no particular know-how in wood processing for example, they are opportunists. Another point to note is that the Chinese diaspora has been present in this area for many years, and several generations, and controls most important economic activities, so that most of these operators belong to Sino-Malagasy circles. With the increase of the demand of rosewood in China and the parallel increase of the prices, through the successive periods of logging outbursts these operators have gained considerable economic power and today are genuine tycoons (the "rosewood barons"). They control and maintain a pyramid and network of subordinate logging operators / rosewood bosses working for them or from whom they buy the wood. Through the different political regimes, they have been able to maintain themselves close to the local and central power up to the highest levels and to ever increase their political influence. As regards their operating modalities, they have been described as a mafia (RANDRIAMALALA & LIU, 2010). In early 2009, these rosewood operators were 13 who were accredited as exporters and managed to obtain the promulgation of an exceptional legislation allowing them to export rosewood even in logs (interministerial Order 003/2009 of 28 January 2009). A few months later, they were 23 to keep or gain recognition through Order 38244-2009 of 21 September 2009 (with extension of their distribution to some other regions).

Secondly, there are the other logging operators, working in the value chain of other timber species of natural forests and the timber species of plantations. Given that most operations are not mechanized, most of them are small operators. They are represented by the National Group of Malagasy Logging Operators (Groupement National des Exploitants Forestiers de Madagascar: GNEFM). This professional association is not very powerful as formal logging is not widespread and the operators can remain individualistic. The Group is a member of the Alliance Voahary Gasy. As it is basically not involved in rosewood logging, the Group is concerned about the current situation of the sector which is blocked and does not work normally, largely because of the impact of the rosewood issue.

Industrial operators: see processing industry in chapter 7.

There are no associations / organizations of timber traders.

Local communities, organized in CoBas, have been involved more and more in forest management through the mechanism of management transfer (see point 4.1). In some cases, when capacity building has been strong enough, they reach a good degree of ownership of forest management practices. In some cases the system is corrupted in that influential members of the communities delegate the logging activities to irregular logging operators. In some cases, the local community can be tempted to "seize power" and start using the forest resources in disregard of the management plan. All in all, the management transfer process has often not reached maturity yet. If they can have some local influence on forest governance, CoBas have not acquired any at a wider level.

Unlicensed loggers are important stakeholders, but of course they are not structured.

Politicians have increased their influence in the forest sector, which has become more and more politicized. In the SAVA Region especially, at local level most politicians are acting for the lobby of the logging operators or are part of this lobby. For example, their declarations can play a role to deploy the illegal logging operations even before the regulation which covers them has actually been promulgated. In many cases, a lenient policy as regards logging is an argument used in political campaigns before elections (RANDRIAMALALA & LIU, 2010), especially at regional or local level.

The media, in particular the press, have gradually become important actors in the forest sector. Since the illegal logging crisis of 2009-2010 and since the question of rosewood stockpiles and seizures is not solved,

on average every day there is at least one article concerning the forest sector in the daily newspapers. A few titles publish articles of a neutral colour. The other newspapers publish articles which can be strong criticisms against illegal logging and the measures taken to combat it. Although a large part of the activities and implications of the rosewood traffic are highly concealed and actual evidence is most of the time very difficult to obtain, some journalists manage to collect accurate information which otherwise would not be made public.

Foreign investors in the forestry and wood sector are few. The ones who are concerned about regular and "clean" activities are actually having a very hard time. First, there is the strong competition of the cheaper illegally produced wood. There are also the many cases of unfair competition practices, in an environment where these investors cannot rely at all on an impartial judicial system. Unpredictable legislation and the exposure to arbitrary taxes and demands from the administration or local authorities can also be a complication. Finally, as a consequence of the scandal around rosewood logging and export, the official regulations in the timber sector have been considerably up-scaled (atmosphere of general suspicion as regards wood-related activities) so that the application of the procedures for those who do not have special introductions becomes a nightmare.

Other stakeholders in the wood sector have gained importance and attention during the recent large scale illegal logging crisis, the shipping companies and the banks. The reports of Global Witness & EIA (2009, 2010), RANDRIAMALALA & LIU (2009) and RANDRIAMALALA (2010) provide analyses on their role and reactions and explain the way the rosewood value chain is pre-funded.

5.4 The Legality Verification Systems

For a start, the systems to collect the information are hardly sufficient. For example, at central level there is hardly any information on those permits which are issued at local level. The ministry has a department in charge of information management (DSI) and the DGF also has one (SGBDF), the two of them rather independent, at least not linked in a systematic way. SGBDF keeps a series of thematic databases:

- on afforestation (Excel);
- on bushfires (Excel);
- on management transfers (Excel);
- on logging titles delivered through a tender process (Excel);
- on rosewood stocks (Excel);
- on the monitoring of prosecutions ("contentieux");
- on IEFN (Arcview and Arc Map);
- on the forest cover (Arcview and Arc Map);
- on the SAPM (Arcview and Arc Map);
- one is being created on public forests (Arcview and Arc Map);
- one is being created with the ACP-FLEGT Support Programme (UE/FAO/ Fondation Tany Meva) on the origin of the timber which is sold on the markets of the capital (Arcview and Arc Map).

These are updated based on the annual work plans and annual reports of the DGF and 22 DREFs. However, practically speaking, there are many gaps in these databases and a problem which is more and more acute is that the information from the regional level no longer reaches the central level in a normal way (delays, some information never transmitted). So the main weaknesses are: (i) the way the data are collected (units, conversion, structure, etc.), (ii) the transmission from one level to another and (iii) the updating especially of those databases which should be a permanent "accounting" with permanent inflows and outflows allowing the production of regular situation recapitulations.

Definition of legal timber

The definition of "legal timber" is a real challenge in Madagascar. This is caused by the regular changes of the regulations on timber logging and export and the conflicting prescriptions of these different regulations as outlined in paragraph 4.1. Indeed, many studies have highlighted the regular production of what could be called "illegal regulations" coming from as high as ministry level (Global Witness and EIA, 2009; RANDRIAMALALA & LIU, 2010, to mention only a few). Next to this, instances where the legislation is highly subject to interpretation are extremely common. One of the most common practices in the logging and timber trade sector is the insertion of wood illegally harvested in a "legally" documented flow downstream, this downstream "seal" being in fact highly questionable, and in fact meaningless.

One issue directly related to this subject is the Gibson Guitar case. This company based in the US was subject to an investigation by the American administration because it was suspected to have imported illegal rosewood from Madagascar (actually imported from a German company who had imported it from Madagascar) and so to have violated the stipulations of the amendment of the Lacey Act. Malagasy officials interviewed on this question during the study mission generally replied: "it depends on what you call *illegal wood*". In this case, that rosewood was almost certainly from illegal origin (logged in protected areas and cut since rosewood logging is forbidden), but it was probably "legally" exported, which according to some points of view cleans it.

System of control of the movements of timber

This is the next severe weakness, discussed in the specific paragraph 4.5 below.

Legality verification

As regards this component of a LVS, the verification of the entitlement to log has long been very weakly applied. The extreme case is the rosewood trade for which during the periods where it is openly done the usual system is that only the export is allowed, while a totally blind eye is turned on the logging. But in all types of forests and woodlands, the field control by the forest administration of the actual location of an authorized logging operation is very loosely done.

Then the controls of the movements of the wood during transport, the controls at the level of processing plants and storing places are all limited and affected by problems of corruption. The processing units are not even properly inventoried by the forest administration (no real census available at central, regional or district level). Controls at the export stage are highly variable, very light during some periods, particularly strict during other periods.

Independent monitoring

ONESF is engaged from time to time in campaigns of monitoring of the situation, mainly as regards the rosewood sector, and in particular the counting of the stockpiles. Nevertheless, the real degree of independence of this organization and the publishing of such results has been discussed in paragraph 4.2. Besides, ONESF has now limited resources for its operations (temporary funds from the EU), taking into account the fact that its mandate also covers all environmental aspects. This means that no nation-wide and systematic system of independent monitoring exists that would cover the whole sector of timber production and trade.

Only in a few cases, some organisations, with or without international support, can give a warning if there is a problem somewhere and through the CCPTF-E the information can be relayed. Whether there can be some leverage to influence the situation is another question. Some limitations encountered can be the difficulties of access to the sites where illegal logging is taking place (exhaustion of the rosewood resources so that the harvest is now taking place very deep into the jungle) and, in case of large scale crises, the increasing insecurity in the field. During the crisis of 2009-2010 of rosewood logging, a particularly interesting work of "monitoring", enquiry, coverage and analysis has been conducted in a somehow systematic way by RANDRIAMALALA & LIU (2010) and RANDRIAMALALA (2011), even if some of their conclusions are arguable.

The issue of how to best organize independent forest monitoring in the present context is discussed by TEGTMEYER *et al*. (2010).

5.5 Timber Tracing

In 2000, a ministerial order suspended issuance of new permits of logging on the basis of exclusive negotiations with one interested operator ("gré-à-gré"); in 2001, Decree 13 855/2001 was enacted, which regulates the granting of a harvesting title through competitive bidding. The first subsequent harvesting permit in the country was awarded through competitive bidding in 2006.

The difficulties met in the introduction of the procedures of allocation of harvesting titles through competitive bidding explain the fact that the proportion of wood which is not legal is more than ever at a very high level. On the other hand, the wood value chain is mostly informal with manual techniques used (pit sawing especially), so that wood flows are numerous and difficult to control.

To avoid control measures of the forest administration, loggers tend to insert unofficial wood in flows which are supposed to be legal. This practice is feasible due to the limited reliability of the means of tracing such as the marking with the official forest hammer, the documents for the movement of the wood (laissez-passer, etc.) issued without necessarily being able to verify the origin of the wood, and the existence of titles allowing the export of volumes significantly higher than the limits of these titles.

According to the procedures in force, the logs from the moment the tree has been felled and cut into logs must bear at both ends a marking hammer or paint imprint, the operation's site number, the tree number, and the number of the log. The regulations also prescribe that all wood leaving the operation site must bear at both ends an imprint of the marking hammer of the operator and that of the forestry official which will determine official receipt of the product. Generally speaking, the mark of the forest hammer of the administration is supposed to indicate that the wood has been received by an agent of the administration and is therefore legal. Besides that, the documents which are meant to certify the legality of the products are:

- the "laissez-passer", is used to transport wood from the forest towards an intermediate or final destination;
- the authorization of transport is used to transport wood when there is loading or off-loading, when there is a change of owner or when round logs have been processed;
- the forest administration and the police also recognize the invoices in the case of commercial exchanges.

Although the mark of the hammer and the transport documents supposedly condition the legality of the wood, practically speaking the information on the origin of the wood is rapidly lost. On the laissez-passer the original logging title is mentioned, although wood from an illegal source can have been mixed into it. At the stage of the authorization of transport, it is no longer possible to say where the wood comes from, as the stocks are made of woods from several origins or as the wood has been processed.

Over the years, the decentralized forest administration has made certain efforts to try to reduce illegal logging and certain DREFs have taken initiatives such as the issue of "laissez-passer" based on actually received volumes or the monitoring of stocks inside plants. But most of the time these are isolated initiatives that are not part of a global system and so they have a limited impact.

Figure 20 in ***Annex 12*** shows the existing legal fluxes of wood in the current situation of the value chain.

Figure 21 in ***Annex 12*** shows the existing illegal fluxes of wood and their connexion to the legal fluxes in the current situation of the value chain.

Figure 22 in ***Annex 12*** shows the weak points where the existing legal fluxes of wood are not secured and where tracing is interrupted in the current situation of the control of the value chain.

The JariAla project designed a comprehensive tracing system based on the identification of the possible control points in the value chain and the development of physical tools (marking and documents) as well as data management tools. This method is presented by IRG (2007a). The information above in this paragraph 4.5 comes from this source, including the figures. This method was tested in real conditions in 2007-2008 (IRG, 2007b). Since then, the forest administration has not taken over the deployment of the process on a larger scale, except in Didy forest where a similar system is being set up in the context of commercial logging by CoBas of management transfers, with the joint support of the COGESFOR project and PROLEGTRA project (Association PARTAGE).

5.6 International conventions and trade agreements

ITTO:

Madagascar signed the International Tropical Timber Agreement in 2006 but has not ratified it until now. The reasons of this absence of ratification have not been disclosed during the study mission.

SADC: as Madagascar is a member, the current situation is an "area of preferential trade", which should become a free trade area at the end of 2012 (tax free for exports and imports).

COMESA: as Madagascar is a member, the situation is a free trade area: tax free for exports and imports based on the presentation of the certificate of origin ("certificat d'origine").

COI: as Madagascar is a member, the situation is also a free trade area.

Agreement with EU: Madagascar is signatory of the Cotonou Agreement, which is still valid but will become the Agreement on the interim economical Partnership, which will reduce tariffs. Under this coming agreement the exported commodities can enter the EU free of tax while the European commodities imported in Madagascar benefit from reduced tariffs (evolving towards a free trade area in 2023).

Agreement with USA: Madagascar had an agreement with the USA but it has been suspended.

Agreement with China: Madagascar has a bilateral trade agreement with China according to which a number of products exported by Madagascar, including timber, enter China free of tax.

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

In terms of documents to provide, there are currently two slightly different procedures for commercial export of timber. They are described in ***Annex 6***.

As regards the procedures themselves, they have become quite complicated, longer and more costly in the last two years, following the rosewood affairs. For the various types of goods that can be exported, there are 4 possible circuits in Tamatave harbour, according to the strictness of the controls: the green, the blue, the yellow and the red circuit. The green circuit is followed for some ordinary goods when the exporter has a good reputation and implies only minimal verifications of the documents. On the contrary, the red circuit is to be followed for “suspicious” goods and implies a series of verifications of the documents and physical verifications. Wood is normally always considered as suspicious. Therefore, for all wood products, including softwood timber, the procedure requires among other things a bank domiciliation and 3 letters of commitment / waiver ("lettres d’engagement" ou "décharges") signed by the exporter, one for the customs (basically swearing that the products in the container are the ones described in the declaration), one for the phytosanitary services and one for the container company (basically to bear responsibility if there is a problem, that is to say in case precious wood is found in the container). The red circuit in the case of wood products implies verification by the forest administration when the container is filled, the scanning of the container and usually a reopening and thorough physical verification of the container by the customs

(implying offloading and reloading). Some resource people interviewed during the fact-finding mission suggested that the red circuit is not always followed for wood products, depending on the exporter.

CITES exports:

Export permits for the wood products of species listed in CITES annexes are issued by the management department of CITES which is the Service of Management of the Fauna and Flora (SGFF) of the DVRN within DGF. A manual describing export procedures is available (MEEFT, 2006).

5.8 Law Enforcement

In case of infraction in the forestry sector, the agents of the forest administration, who are Judicial Police Officers (OPJ), are entitled to produce certified reports ("procès-verbaux"). The smaller cases are instructed at the level of the forest administration, while the serious ones are transmitted to the tribunals.

In Madagascar, if there are some relatively good records of law enforcement in cases of forest clearing for agriculture, especially in protected areas, forest law enforcement is universally recognized to be quite weak as regards logging and timber trade. In the first case, the administration is facing simple farmers; in the second case it is facing commercial interests which can be very powerful. Even for logging cases, when penalties are applied, they more readily concern small loggers, while the big bosses in this business are rarely prosecuted, and even more seldom condemned.

Some of the common problems of weak law enforcement come from the following facts. A first weakness is the small number of controls, especially in the forest where the felling takes place. A large part of this is due to the limited human resources of the forest administration compared to the size of the country, and their scarce logistical means. These operations are centred on the use of local rural labour (which is not affected by the lack of roads) and the wood is then quickly removed along the river network, first by floating it, then by loading it on dug-out canoes, and soon by loading it on boats which follow the rivers downstream up to the sea. Until now, the boats have been in the hands of the private sector almost exclusively. Both the forest administration and other administrations do not have equipment or boats and as a result they can hardly do anything.

Beside these logistical constraints and the scarcity of controls to enforce the law, the second and most serious concern is the scarcity of real sanctions in case of ascertained illegal logging.

Most legislation texts on penalties in the logging sector are old and so the level of the fines is very low. There is also the very common use of the procedure of the settlement fine ("transaction") which in many cases becomes an amicable agreement between the offender and the administration, the former paying a certain fine amount to the latter to immediately settle the case. In many cases, after paying the transaction the offender keeps the wood.

Corruption is a problem at all levels and in all administrations concerned by with the timber trade. As regards the cases where some civil servants are involved in illegal logging, in addition to the fear of the people in a position of authority, one characteristic of the Malagasy society limits the chances to interrupt these activities, the fact that denouncing someone is not present in the traditions. Usually in case of such traffic, everyone is aware of what is going on and deplores it, but it will not be denounced. On the other hand, at the regional level of the forest administration (DREF), law enforcement depends on the Regional Service of Control (SRC) which should be an independent department. Yet in reality, it is highly relying from the logistical point of view on the Regional Director of Environment and Forests, which considerably limits its independence.

The non-application of sanctions and the drifts in law enforcement are most marked in the case of the rosewood illegal logging. First, considering the fact that for many years now this logging has been concentrated in national parks, it should be stressed that MNP is hardly empowered for law enforcement.

Then, according to ONI (2012), the poll on corruption conducted in 2006 in Madagascar indicates that the Malagasy Justice is perceived as one of the most corrupt sectors in the country. Among the 23 rosewood exporters accredited in 2009, 13 had already appeared before a court for forest crimes, 5 of them several times. Only two of them had been condemned. More information on this subject is given in ***Annex 5***.

If corruption is widespread, it is necessary to mention that in the rosewood logging and export operations, civil servants who would like to enforce the law are threatened (park staff, officers of the forest administration, etc.). This is either through direct physical threat and threats to the family of the agent. Or a practice also used is to accuse the civil servant of being involved in the traffic. The latter becomes the main accused and can be sentenced to jail and all sorts of fabricated pieces of evidence are produced against him.

For effective law enforcement, it should be up to any wood trader to provide evidence that his wood is legal. As opposed to this, the present reality observed is that when illegal logging is discovered it is up to the authorities to prove that the suspect is guilty, a very tricky thing to do most of the time, even when the latter has been caught red-handed.

Recently, new regulations have been passed which significantly increase the sanctions for illegal activities concerning precious wood (Ordinance 2011-001 of 8 August 2011). It remains to be seen if these will be strictly enforced or if this is a pretence measure. At the time of the study mission, convicts of rosewood infractions in the SAVA Region had just been released from a stay in prison. According to several observers, these convicts do not seem affected by such a stay in prison, which most of the time is short, and they even display an attitude of pride and a feeling of being unscathed.

One key issue about law enforcement which has prompted intense debates among the public, the international community and the experts is the one of the wood seizures (Global Witness and EIA, 2009; RANDRIAMALALA & LIU, 2010; BALLET *et al*., 2010; ONI, 2012).

Towards 2006, 2007 and 2008, a period during which rosewood export was not allowed, efforts of law enforcement were increased and at the same time prices on the Chinese market increased, and a series of seizures were made. Some of them became very important in volume and given the high value of the product they represented enormous amounts of money. This wood was progressively transferred to Antananarivo to be secured. In 2008, at a time when forest governance was weakening, these amounts seized were sold supposedly by public auction, but this was actually very untransparent and the wood was subsequently exported in particularly obscure ways (SOA hoan'i Madagasikara, 2008).

Before that, and since then, other seizures of rosewood have been made by the administration, in rural areas, in towns or in harbours. In all cases, the fate of that wood has remained unknown, the wood has been stolen, or the wood has been sold by the administration in a non-transparent way. In other words, it is practically certain that the wood has been recycled, that is to say it has been reintroduced into the value chain and has ended up exported to China.

The Government is currently applying an official strategy "to clean up the sector". Considerable stockpiles of rosewood, coming from the previous logging campaigns, especially the one of 2009-2010, still exist in the yards of the operators of the SAVA towns and here and there in the region. One of the components of this strategy is that all owners of rosewood have to declare these stocks to the administration according to Ordinance 2011-001 of 8 August 2011. Another component is that all seized wood, including the one that has not been declared will be sold in public auction, and it is declared that this procedure will be transparent. However, the management of seized rosewood remains an issue.

5.9 Information and Monitoring Systems

See point 5.4 above.

5.10 Certification

There is only one forest operation which is certified in Madagascar. It is a 1000 ha concession FSC certified and managed by the association of the company Bois de Madagascar and the company SATOB within the Fanalamanga pine plantations, in the area of Moramanga (Region Aloatra Mangoro). The products are sold on the Malagasy market or exported towards the neighbouring island countries.

The managers of the concession deplore that decisions and regulations on forestry generally make little distinction between timber from natural forests and timber from plantations. Timber produced in plantations should be supported while currently it is ostracized in the same way as timber from natural forests.

A big constraint according to them is the complexity of administrative procedures, which has increased especially the last 3 years as a consequence of the rosewood logging issue. A number of measures of control represent heavy constraints for an industrial operation processing only ordinary pine, without necessarily being "leak-proof" (i.e. being able to suppress traffic of illegal timber). The main challenge is the export procedures as they are currently demanded in Toamasina, which seem out of proportion compared to the value of the product (pine wood). Transport procedures are also heavy. For example, the interdiction of transport of any logs during the night (which sometimes tends to be enforced even for processed wood products) is a significant operational constraint, which could be more easily accepted if a lot of timber was not stolen and transported from the Fanalamanga plantations in broad daylight. Other constraints are the multiplication of taxes imposed by certain local authorities while they are not in the legislation. Finally, serious concerns are the stealing of timber and forest fires within the Fanalamanga woodlands.

The national NGO ICFM (Initiative for Forest Certification in Madagascar) tries to promote and develop forest certification in the country. One of the objectives of the organization is to establish a Malagasy FSC standard.

Certification can be seen as a solution to increase the profitability of sustainable forest management operations which suffer from the competition of timber illegally harvested (access to certain niche markets, especially in neighbouring French islands). Nevertheless, all in all, there is little interest for certification in Madagascar and no sufficient incentives.

5.11 Transparency in the Sector

As we mentioned above (chapter 3), the forest administration does not seem to maintain a tradition of transparency in the sector, especially on questions related to wood trade. This materializes at different levels. First, reliable data on the sector are rarely available, accessible and published (see point 4.4. above). Secondly, until now the procedures themselves as they are applied are in many cases not transparent. Some progress was made from 2001 onwards when the old system of logging permits on the basis of exclusive negotiations with one interested operator (“de gré-à-gré”) was abolished, but until now the new system to issue permits through transparent procedures is still stalling, as if it was stuck.

This lack of transparency in general in the forest sector is even more obvious in the precious wood affairs, this time at the level of the administrations and the Government. In a paragraph called "Difficulties of access to the information and lack of transparency on the precious woods", BALLET *et al* (2010) record the following problems in the case of the recent crisis:

- the Government's action has tried to respond to the pressure of international organizations and of the Malagasy civil society by maintaining the ambiguity between export and logging.
- the information made available has been of poor quality: unreliable (on amounts cut, on amounts exported, on areas affected e.g.) or inaccessible (no reports validated and published by the official stakeholders directly concerned). For lack of reliable information, the logs of precious wood exported are declared as coming from older cuttings and old stocks instead of trees newly cut.

- the regulations often mix the different groups of species of precious woods (rosewood, ebony and palissandre).
- The interministerial Orders on precious wood export do not compel the exporters to produce information on their commercial activity.
- The forest administration does not have the obligation to publish the reports of its control missions.
- ONESF, although it should be an autonomous and independent institution to collect and analyze information on the sector and a tool for information watch and mobilization, has not published quantitative information either on the issue of precious woods on its internet site in 2009 (<http://www.osf.mg>).

As regards the transparency of the precious wood governance, especially the legislation production, RANDRIAMALALA & LIU (2010) make the following remarks in the context of the recent rosewood crises: "The multitude and inconsistency of the legislation texts applicable to that sector for the last 10 years, which prevent the smooth functioning of the judicial system and practically guarantee impunity to the ruthless exporters, are neither caused by a lack of cleverness of their authors nor caused by any lack of competence. We think that it is a more or less organized system (a collective spontaneous behaviour spread over several years, more precisely), the objective of which is to trigger, then to maintain the activities of lobbies around the members of the ruling class. [...]. The chaos of the forest legislation is only apparent, it comes from higher interests, it hides them. It allows the owners of the power, central as well as regional, in every ministry concerned, to apply a bargaining."

In contrast with this opacity affecting public forest governance, the Malagasy civil society has played a more and more significant role to improve the transparency of the sector. Organizations such as the Alliance Voahary Gasy now have a real say in influencing forest affairs, especially to counter the most serious drifts (see point 4.3 above).

The press has also played a more and more important role to report what is going on in the sector and has become another significant actor of the transparency in the sector.

As a consequence of this evolution, there is currently an effective open public discussion of the forest issues. At the same time, a greater awareness has arisen in the public. One recent example is the issuance of the very controversial ministerial Order 0741-2012 of 18 January 2012 which was perceived as a potential re-opening of rosewood logging problems. This prompted a general outcry, including at the level of the forest administration itself (see point 3, strike) so that the Order was abrogated two months later (ministerial Order 4218-2012 of 15 March 2012). The minister was also replaced.

Another tangible trend is that for environmental NGOs, it becomes easier to obtain an open discussion with the minister. Signs of accountability within government institutions are also increasingly perceived.

5.12 FLEGT activities to date

The FLEG programme of the World Bank gave financial support at the time of the JariAla project to improve the taxation of the sector and to set up a system of tracing of the wood.

In 2008, the Government of Madagascar expressed its interest for FLEGT to the EU Delegation. Yet, a few month later the same government caught in the turmoil of the political crisis, enacted the Inter-ministerial Order 003-2009 which triggered the most tremendous illegal logging crisis ever experienced by the country.

FLEGT initiatives launched at the level of the SADC concern Madagascar as it is one of the member countries.

Four FLEGT projects funded by the EU are currently implemented, derived from calls for proposals.

The first one is implemented by ONESF as a partnership with ONI: "Vigil and interpellation around the governance of logging and marketing of forest resources". The other three projects are part of the FAO ACP-FLEGT Support Programme:

- Foundation Tany Meva: "Support to the forest administration in the control and the monitoring of the provenance of forest products on the market of Antananarivo capital".
- Association PARTAGE: "Support to the legality and tracing of community logging of timber".
- WWF Tulear: "Control and regulation of the fuelwood value chain in the South-West of Madagascar".

These projects may seem like a drop of water in the sea, compared to the needs. Yet, they are very important to maintain a certain momentum and keep alive principles of improvements of forest management that have been recommended since many years.

5.13 REDD+

Information on the REDD+ process in Madagascar can be found in the R-PP report (FCPF, 2010).

Activities involving the sale of carbon credits have started on 3 large sites which belong to the new generation of protected areas (with a temporary status of protection):

- Corridor Ankeniheny-Zahamena (CAZ), (co-)management by CI, 425,000 ha of rainforest;
- COFAV, (co-)management by CI, 240,000 ha of rainforest;
- Makira, (co-)management by WCS, 372,000 ha of rainforest.

In Makira, an agreement exists between the MEF and WCS on the management of the sale of carbon for the site. The protected area has been physically demarcated. The sale of carbon is already effective with private investors through the voluntary market. A mechanism of sharing the revenues exists, the larger part of which is allocated to local communities to strengthen their participation to the sustainable management of the site: 50% to the communities, 25% to the manager, 15% to MEF and 10% for the monitoring.

There are also initiatives on other sites across the country.

The carbon strategy is not yet clearly defined.

6. The fuelwood Market

National fuelwood consumption represents more than 80% of the wood consumption, *i.e*. 9 million m^3 for firewood (rural areas mostly) and almost 9 million m^3 RWE for charcoal (urban areas mostly) per year (GISC, 2009). 90 to 95% of household energy needs are covered by fuelwood (FCPF, 2010).

The eastern rainforests are mainly providing firewood, while dry forests and woodlands of the west and south of the island are highly tapped to produce charcoal.

Charcoal production is largely based on local clear cutting and on traditional techniques providing a yield of only about 15% in weight.

Increasing demand for charcoal in neighbouring countries with limited wood resources could increase the pressure on the Malagasy resources.

The biggest problem of the charcoal sector is that there is little control: absolutely no control of where the cutting takes place, and little control on the transport. One difficulty to tackle this problem is the fact that the value chain is made of a multitude of small operators.

7. Forest utilization

The estimate of the potential sustainable annual *production* of timber and fuelwood from non-protected areas in Madagascar is presented in **Table 3** in ***Annex 5*** (GISC, 2009). According to the same study, the estimate of the actual total annual *consumption* of timber and fuelwood was about 9 million m^3 RWE for firewood (42%), a bit less than 9 million m^3 RWE for charcoal (39%) and 4 million m^3 RWE for timber (19%), making a total of 22 million m^3 RWE of wood (situation of 2005). The study deduces that the forest

resources as a whole are currently sufficient to sustainably produce what is consumed by the population, but using a number of hypotheses it infers that by 2025 it will no longer be the case. However, this current overall balance should not hide the fact that in reality the intensity of harvest of wood is not evenly distributed and that most areas located within reach of large towns are already overharvested, at least for certain species.

It is assessed that the large majority of logging activities in Madagascar are currently illegal. The GISC study (2009) reports that more than 60% of marketed wood products come from illegal or irregular harvesting and that this situation is worse for timber products: less than 5% of their national consumption seems to be covered by logging permits. This situation has prevailed for a long time, even before 2003, so that the creation of new protected areas, which has reduced the forest areas dedicated to production, is certainly not the first factor to explain it. **Table 10** in ***Annex 13*** presents the official (=recorded) national annual production of timber and fuelwood products according to the Forest Administration from 2005 to 2010, converted in RWE volume. Taking into account the exports and imports, it compares it to the estimated actual national consumption for such products (see above). These results show that the official / recorded annual production fluctuates a lot from one year to another: about 220,000 m^3 RWE of wood produced recorded in 2007, 13,780,000 m^3 RWE in 2010 e.g. These substantial variations could be caused by a very variable degree of recording of amounts harvested (including fluctuations in the number of permits issued related to changes in the regulations) and /or anomalies in the figures. These results suggest that on average between 2005 and 2010 only 24% of the timber products consumed have been officially produced (= formally marketed, somehow recorded, captured by statistics) and 43% for charcoal.

Few forests and woodlands outside the SAPM have a management plan in Madagascar and it would be difficult to find an up-to date report on this. However, at the time of the JariAla project, a strategy was designed and started to be implemented to organize the distribution of production from general levels to local levels. The first stage was the preparation of a forest zonation plan in each of the 22 Regions. In the framework of this forest zonation plan, large Sites of Sustainable Forest Management (SGFD) have been officially established (9 sites totalling about 800,000 ha, FAO, 2010).

8. The Forest Industry Sector and Domestic Timber Market

8.1 Felling, harvesting systems, logging operators

Felling, harvesting systems and logging operators have been discussed above in point 4.3 describing the actors concerned. As indicated, logging operations are hardly ever mechanized in Madagascar. There are only very few and occasional cases of felling with chainsaws and also only a few cases (less than 5) of timber extraction with timberjacks / forwarders. One of the reasons is the fact that the remaining forests with high volumes, especially rainforests, are located in remote places with steep relief, high rainfall and many rivers to cross, so that carrying equipment, building roads and bridges is difficult and not economical. Most logging operations are small scale, partly due to the relatively fragmented nature of the forest resources in Madagascar: few large expanses of forest. There are also few formal and permanent (long term) logging operations.

Another important characteristic of logging operators already mentioned is the fact that few are real "professionals" of the forest (most are multi-sector businessmen). One exception in the SAVA region is Roger Thunam, involved in the timber logging and processing for more than a decade, processing both precious woods and other hardwoods.

Good descriptions of the logging activities and the logging operators in the case of rosewood logging are to be found in Global Witness & EIA (2009), RANDRIAMALALA (2011), STASSE (2002).

8.2 Wood transport

Elements of description of the transport of the wood from the forest to the road network or to the sea have been provided in paragraph 4.8. After this, two systems exist. Either the wood is transported to the mills or to the export ports by road, or by small or less small boats linking the various estuaries of the coast to the main harbours. Generally speaking, as regards trucks and boats, there are no operators specialized in wood transport. Some export operators have their own trucks (that they can also use for other businesses) but usually the other ones rent ordinary transport vehicles or boats.

RANDRIAMALALA (2011) describes well how the boats which are normally used to supply ordinary goods in the north-east of Madagascar and sustain the normal economy were monopolized during the precious wood crisis of 2009-2010 to send the logs to Toamasina harbour.

8.3 Processing facilities

Like for timber harvesting and extraction, most of the downstream processing of the wood in Madagascar is done in an informal way and either manually or in small-scale units. Logs are often squared by hand and sawn manually in or near the forest (axes, pit-sawing). A major consequence of this is the fact that the yield ratio of the felling and first processing is around 15 to 20% only, while it could reach 50%.

Besides this, an important observation made during this study is that the forest administration has surprisingly limited information on the really industrial wood processing facilities operating in the country. No systematic registration or census of these exists at the level of the forest administration, either at central of regional level. Of course these companies are registered by other administrations as any other company, but the forest administration does not have data for purposes of technical planning and orientation of the wood sector.

The trends are that Madagascar, as a country with good wood resources, used to have most components of a full wood processing industry: industrial sawmills distributed across the different forest regions, paper pulp plants (at the time where they were not of big size), rotary peeling to produce matches, slicing to produce veneer, panel production, industrial joinery / carpentry, and industrial furniture making. But this furnished industry has been declining and one after the other, these processing units have closed (many proper sawmills, the paper industry, the production of matches, the production of veneer have been lost). Another trend has been the reduction of French-owned industries, progressively replaced by Chinese or Indo-Pakistani operators.

Today, only a few industrial sawmills still work, often including facilities to further process the wood (carpentry / joinery). Among the main ones are Bois de Madagascar / SATOB in Moramanga (see paragraph 4.10, certified) processing mainly pine wood. And Roger Thunam who has one significant unit in Antalaha and has opened in 2009 another one, more modern, in Vohemar, both oriented to process hardwoods from natural forests, mainly precious woods for export.

Other existing industrial facilities are Panomad in Moramanga, producing fibreboards out of eucalyptus roundwoods, currently struggling for survival. The last types of industrial wood-processing units are joinery / carpentry / furniture making industries producing various types of products including parquets and prefabricated wooden houses.

The main causes identified of this decline of the industrial wood processing in Madagascar are (i) the lack of know-how among the management of many of these industries (increased involvement of opportunistic businessmen); (ii) the lack of control of many of these plants over their wood supply; and (iii) the high cost of electricity which is mentioned by many of these operators as an important constraint. The first factor is probably related to a problem of insufficient attractiveness of the country for investors, in turn related to concerns about the safety of investments and the business environment. The second factor is partly conditioned by the first one (lack of strategic know-how, difficulties to secure proper concessions of

woodlands and to manage them. But it is also due to the widespread phenomenon of over-harvesting of the wood resources in the areas were these plants had been established; so that some of these plants are progressively strangled (they have to buy wood further and further, more and more expensive.

As regards the Malagasy sawn wood industries which export, other constraints mentioned are the following. First, hardly any shipping company accepts any longer to transport wood products from Madagascar, even softwood. Secondly, for the exports of timber to the EU, a fear is expressed that the safety regulations gradually introduced by the EU for the structural timber will make it more difficult for Malagasy units to meet the requirements in the near future (likely obligation of new equipment of measurement of the mechanical properties of the wood, the calibration of which for Malagasy species would be too costly).

8.4 Trade associations

No particular professional associations represent the wood processing operators or the wood traders.

9. The timber trade

This chapter is a study of the exports and imports of wood products by Madagascar. Some complementary information regarding metadata can be found in ***Annex 7***. This chapter deals with official statistics, and where appropriate the discussion of their validity; the question of unofficial and illegal flows is discussed in paragraph 10.1 further. Some information on in-country trade flows can be found in ***Annex 7***.

Figures 14 to 19 in ***Annex 11*** present the geographical synthesis of timber trade flows for Madagascar (strictly speaking these data include Timber sector products *and* Fuelwood sector products, but the latter are negligible among the international flows of the former).

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

Generally speaking, imports of Timber sector products by Madagascar (fluctuating from about 10,000 to 50,000 m^3 RWE per year) are small and have represented about a quarter of the exports of Timber sector products (fluctuating from about 70,000 to 200,000 m^3 RWE per year). In comparison, the national *consumption* of Timber sector products is evaluated around 4,127,000 m^3 /year (GISC, 2009), of which it could be assumed that at least half, *i.e*. roughly 2 million m^3 /year are traded on the national market. For Madagascar, the group of products "VPA core products" is almost exclusively made of Logs + Sawn wood, except for imports in which plywood cannot be overlooked.

As opposed to what happens for timber sector products, the exports of Paper sector products (made of less than 50,000 m^3 RWE per year) have been much smaller than the imports of Paper sector products (fluctuating from about 60,000 to 180,000 m^3 RWE per year). Imports and exports of Fuel sector products do exist, as will be analysed below, but in comparatively minimal quantities.

Exports of Madagascar to EU-27 of all wood-based products, useful to consider when FLEGT perspectives are discussed, range from about 10,000 to 100,000 m^3 RWE per year, of which the timber sector products represent 75 to 100% (the rest being apparently Paper sector products mainly).

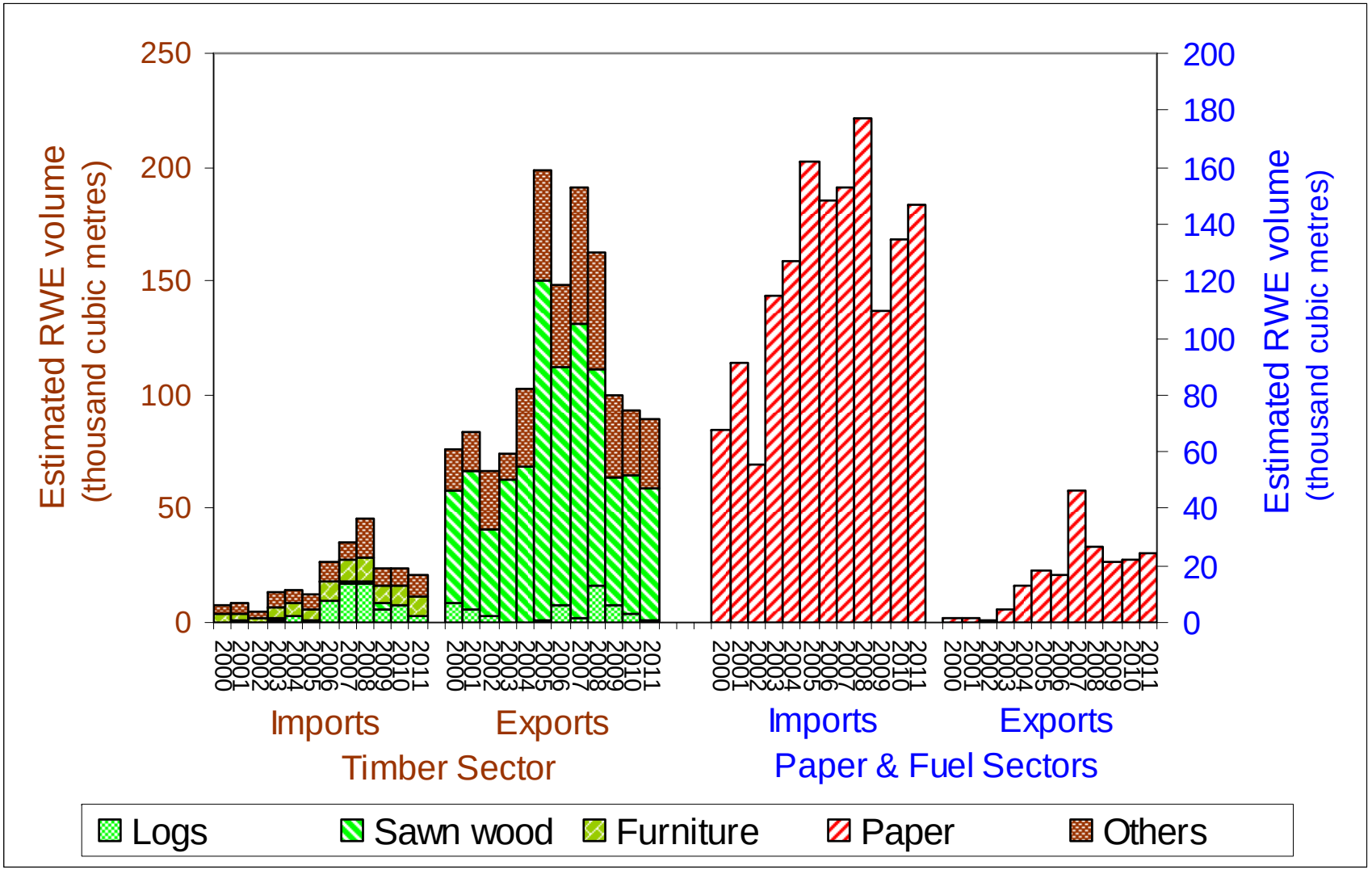


Figure 1 Madagascar's trade in wood-based products (2000-2011)

Source: based on UN Comtrade (see Annex 8 for metadata), 2012

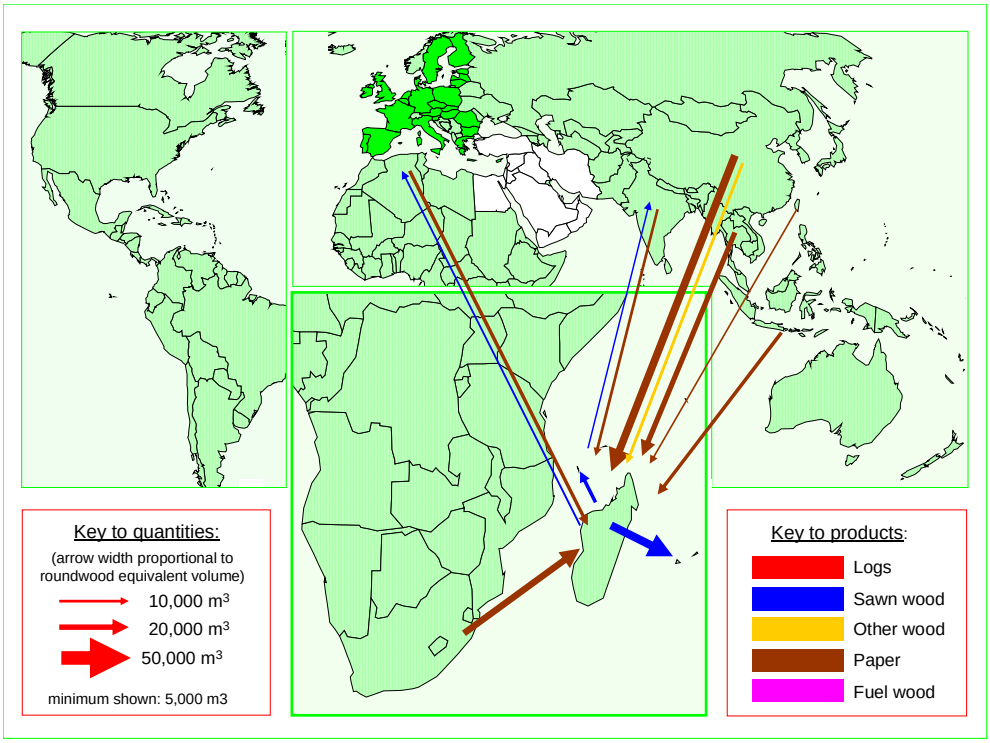


Figure 2 Map of the main flows of wood-based products (2011) concerning Madagascar

Note on Figure 2: This map is presented to show the latest flows. But it should be noted that concerning Madagascar, export flows tend to vary according to the years. For a more average representation of the flows, the maps of **Figures 14 to 17** in ***Annex 11*** should be consulted.

Source: based on UN Comtrade, 2012 (Estimated RWE. See Annex 8 for metadata).

As regards the value of all Wood-based products traded (see **Figure 5** in ***Annex 8***), for the imports it ranges over the decade from about 20 to 70 million US$ per year (paper representing more than 90% of that value); and for the exports it ranges from about 10 to 50 million US$ per year, most of it being generated by Timber products. These figures are also coming from the UN Comtrade database, in which the declared value of the exported products is often an underestimation of the real value of the products. Some complementary information on declared prices for imports and exports by type of product can be found in ***Annex 7***.

Exports and imports by port:

The following information on the respective importance of the ports for timber trade is derived from the data of the Malagasy Customs and has been processed in RWE volume. It concerns all Timber sector products except furniture (it also contains all Fuelwood sector products, but it represents minor quantities), for the most recent four years that have been averaged (2008-2011) (see **Figure 18 and 19** in ***Annex 11***). The perception of the respective importance of the different ports of the country for timber trade gathered during the field mission concurs with these results based on the data from the Malagasy Customs.

If exports and imports are combined (official total trade), Toamasina (Tamatave) is by far the main harbour for export and import of timber products: 65% of the traffic. This is explained by 4 factors: the size and equipment of the facilities of the harbour, the closest connection to the capital by the National Road (RN2), the access to at least two rich regions in terms of wood resources (Analanjirofo Region along RN5, Moramanga area along RN2) and the consecutive presence of timber processing industry both in Toamasina and around Moramanga. The second harbour by order of importance for timber, Mahajanga, accounts for only 7% of the traffic, much more important for exports and marginal for imports. This second position of Mahajanga could be explained by the size of the facilities of the harbour, the longer but smooth connection to the capital along the RN4 and the location within reach of forest resources of what could be called the Mahajanga basin. The fact that exports to

Mayotte and Comoros, the importing archipelago located in the Mozambique Canal, would be more regularly organized from Mahajanga harbour needs to be confirmed. The next ports, Vohemar (Iharana) (5% of the traffic during the last 4 years), Antalaha (2% of the traffic) and Sambava (2% of the traffic) are all along the north-eastern coast of the country in the SAVA region and are only exporting, mainly rosewood. The next ports represent all less than 1% of the traffic: by order of importance Tulear, Nosy Be (only for imports), Antsiranana (Diego-Suarez), Tolagnaro (Fort Dauphin) and finally Ivato airport. A new deep water harbour of large capacity has been very recently built in Tolagnaro (near the old one): as a consequence, the position of Tolagnaro for timber exports from nearby resources may gain some importance in the coming years. It should be noted that some imports and exports are declared and recorded in locations which are not the port itself. Most of these Customs offices are General Stores ("Magasins Généraux"), the main one is Antanimena in the capital (18% of the traffic) but there are a few other ones dealing with usually very small amounts of timber (Antsirabe, along RN7 e.g.). Some complementary information on the respective importance of imports versus exports by port can be found in ***Annex 7***.

9.1 Exports

Types of products and species:

Detailed data on the exports of Madagascar by product group can be found in **Table 5** of ***Annex 8***. **Figure 6** in ***Annex 8*** shows the respective importance of the main product groups.

As regards the Paper sector, it should be mentioned that the fact that Madagascar exports some of these products according to the UN Comtrade statistics, in however small quantities, is a bit surprising, considering that no plant of industrial size producing paper has been reported during the study. It could concern paper products that are imported by Madagascar and immediately re-exported, or imported raw paper that receives some secondary processing (so that it changes subclass within the class 48 of the ASYCUDA system).

As regards the Fuelwood sector, Madagascar exports negligible quantities of firewood (commodity code 4401). Nevertheless, the country regularly exports small amounts of charcoal, about 500 m^3 RWE volume per year (about 50 t per year), mainly to neighbouring island countries where there is a shortage of such product.

As regards the Timber sector, the production of timber products of Madagascar for exports is made of about 85% of sawn wood and logs (not or semi-processed wood) and 15% of certain more processed or finished products (hardly comprising panels or furniture), on average.

In a more detailed way, the breakdown of exports is as follows (rounded proportions): sawn wood 80% (of which more than half is softwood), other wood 10%, logs 5% (almost exclusively hardwood, mainly precious), mouldings & joinery 5%, while veneer, other panels, plywood and furniture are negligible.

Towards the end of the decade, the proportion of logs in the exports of timber products has increased fairly significantly (this is related to periods of increasing demand and “opening” of the export of raw precious wood). This breakdown of exports is also the result of the configuration of the Malagasy timber processing industry: existence of some sawmill industry, mostly for pine wood but also for hardwood (including precious wood); existence of a few plants to produce special processed products (other wood, mouldings and joinery), such as hardwood parquet elements or parts of music instruments for example; existence of some furniture making plants and one fibreboard plant but their production is absorbed entirely by the national market (see significant imports of these products); absence of veneer and plywood industry nowadays.

The class “other wood” contains various types of products, mainly the following: unspecified articles (several thousands m^3 RWE per year), crates and pallets (packaging wood), wooden prefabricated houses, matches, ornaments (about 250 m^3 RWE per year), and miscellaneous processed articles. Madagascar used to have a plant producing wooden matches, but it is no longer operating. Therefore, the last exports of matches, to Mauritius, appeared briefly in 2004 (less than 100 m^3 RWE per year). Exports of pallets represent between 1000 and 3000 m^3 RWE per year. It should be noted that exports of prefabricated houses, to Asia, have increased in

the statistics recently and are made of timber of high value, if not precious wood (declared FOB price between 800 and 4300 US$/t).

Three main groups of tree species are exported by Madagascar, as sawn wood, logs and more processed wood. The first one is coniferous species (pine) of the plantations of the central highlands: by order of importance *Pinus kesiya*, *Pinus patula*, *Pinus caribeae*, other *Pinus sp*. Almost all of Madagascar's exports of coniferous wood are as sawn wood, but some are either as pallets or, occasionally, as logs. Some of the pine sawn wood exported from Madagascar is of high quality (dried, pre-treated and with no defects), while some is exported for use in making pallets in neighbouring countries and some is of intermediate quality. The second group of species is precious hardwood timber species from natural forests of the east coast and escarpment: "rosewood" (*Dalbergia louvelii*, *D. maritima*, *D. normandii* and *D. madagascariensis*; local name Andramena) and in much smaller quantities ebony (*Diospyros sp*; local name Hazomainty). And the last one is some other hardwood species from natural forests that are exported (smaller quantities too): Hintsy (*Intsia bujuga*), Faho (*Chloroxylon faho*), Nanto (group of genius of the family *Sapotaceae*), Mandrorofo (*Hymeneea verrucosa*), Katrafay (*Cedrelopsis grevei*) and some others. Precious woods are characterized by a price which is much higher than the other hardwood species exported. One group of species of high importance for exports is intermediate between the group of precious woods and the group of other hardwoods: "palissandre" (*Dalbergia sp*; local name Hazovola). Palissandre species are sometimes considered as precious by the legislation, sometimes not, depending on the regulation issued, their price is also intermediate. Respective quantities exported for these groups of species tend to vary over the years, influenced by the context.

Following the precious wood logging crisis of 2009-2010, all rosewood species and ebony species have been recently added to Annex III of CITES, in relation with the application of the Decree 2010 / 141 of 24 March 2010 which forbids the export of these species. That is why since then no official exports of rosewood have taken place. There are no other timber species in Annex III. No timber species of Madagascar is in Annex I. Annex II includes a number of tree species such as rare palms, but these are not really timber species, and they are not threatened by timber trade (rather by the fact that they are rare / beautiful plants). The same can be said about *Prunus africana*, which is also in Annex II due to the threat of the trade of its bark. For this species, Madagascar has been allocated a nil quota of export in the last years, until some correction measures have been taken to improve the monitoring and management of the resource.

Destination countries:

Exports of Timber sector products are shared between three main destinations (see **Figure 8** in ***Annex 8*** and **Figure 14** and **16** in ***Annex 11***). EU-27 used to be the main destination at the beginning of the decade, receiving in total more than half of the timber exports (about 40,000 m^3 RWE per year or more, almost entirely sawn wood). But the situation has changed drastically after 2008, EU-27 receiving since then less than a quarter of the exports (about 15,000 m^3 RWE per year). This can be explained by the fact that a lot of hardwood products were illegally harvested has become more and more publicized.

Within EU-27, France is by far the main destination: Metropolitan France, La Réunion and Mayotte. Madagascar used to export timber to Germany and Spain but these exports have ceased since 2006/2008.

The second main destination is the non-French nearby islands of the Western Indian Ocean, namely Mauritius (mainly) and Comoros (secondarily), receiving roughly one third (about 30,000 m^3 RWE per year). It has been understood during the field study that during 2009 and 2010 at least part of the hardwood imports (precious wood) from Madagascar by Mauritius are re-exported towards China; nevertheless, as far as UN Comtrade data are reliable at that level of scrutiny, imports of timber by Mauritius are mostly softwood and this is entering end-use there. Altogether it means that currently, about half of the exports of timber products of Madagascar are bound for the nearest islands of the Western Indian Ocean: Mauritius, La Réunion, Mayotte and Comoros. Most of these islands are characterized by limited or extremely limited harvestable woodland resources, so that it is likely that they will remain accessible potential markets for Madagascar generating a high demand.

The last main destination of timber exports is China. It has represented about a quarter of the exports over the decade (20,000 m^3 RWE per year), with a peak in 2005 and a smaller peak in 2009. It should be noted that if the export value is considered, rather than the volume, on average for the period 2000-2011 China is the main destination, followed by EU-27 and then the non-French nearby islands of the Western Indian Ocean.

Exports of VPA core products (see see **Figure 9** in ***Annex 8***), practically synonymous of exports of logs and sawn wood, show a similar pattern of destinations as the whole Timber sector products above described, as the former make the bulk of the latter.

Exports of other Timber sector products (see **Figure 10** in ***Annex 8***) are bound for the same main destinations but the proportions are somewhat different.

Madagascar's exports of coniferous wood, mainly as sawn wood, became substantial during the middle of last decade and declined during 2009 when exports to the then leading destination, France, dropped sharply. Most of the pine sawn wood is exported to the neighbouring islands (see **Figure 11** in ***Annex 8***). Approximately half and two thirds go to Mauritius. A significant but quite variable proportion goes to La Réunion and Mayotte and a small proportion goes to Comoros. There are no exports of sawn softwood to China, for obvious reasons of cost of transport. Nevertheless a few long range exports of sawn pine wood are recorded: to Spain in 2005 and 2007, to Kuwait in 2006-2007 and to India (a few thousand cubic metres per year (product volume) the last years.

As regards hardwood, the UN Comtrade database indicates no exports of hardwood logs to Mauritius and Comoros, although other sources (forest administration, customs etc.) confirm that precious wood was exported to Mauritius in 2009 and 2010 (for re-export to China). This difference may be due to inaccurate classification of this timber (use of softwood codes instead of hardwood codes e.g.). The UN database does not mention any exports of hardwood as logs to EU-27 countries, whether they be the neighbouring islands or on the continent. All exports of hardwood logs indicated have been bound for China or "unspecified countries" (see **Figure 12** in ***Annex 8***).

Sawn hardwood exports show a particular distribution in time and between countries (see **Figure 13** in ***Annex 8***). From 2000 to 2004, EU-27 was the destination of about 90% of it, while China was receiving an incipient proportion only. From 2005 onwards the trend has been reversed: most exports of sawn hardwoods to China and progressive disappearance of imports by EU-27. This recent and rapid shrinking of these EU-27 imports can be explained as follows: the fact that a lot of hardwood products were illegally harvested has become more and more publicized. The only countries of the EU-27 that have imported Malagasy sawn hardwoods during the decade are France and secondarily Spain and Germany.

Considering the exports of logs and sawn wood combined, the following observations can be made. In that group of products exported by Madagascar, the general trend is that the proportion of hardwoods has decreased steadily (total of all destinations: from about 75% at the beginning of the decade to about 10% at the end). For China that proportion remains 100% though. The exports to Mauritius are mostly softwood (more than 90%). The exports to Comoros and Mayotte are a mixture of hardwood and softwood. The exports to Europe, mostly France, have evolved from 10% of softwood to more than 90% of softwood from 2000 to 2011. The exports to Spain were 100% hardwood, then some softwood was also exported, then exports to that country stopped altogether. Exports to Germany were 100% hardwood then stopped completely too. Exports of logs and sawn wood to other parts of the world have been 75% hardwood.

Some complementary discussion on the validity of these export statistics can be found in ***Annex 7*** (cross-checking of different sources).

9.2 Imports

Types of products:

Detailed data on the imports of Madagascar by product group can be found in **Table 4** of ***Annex 8***. **Figure 6** in ***Annex 8*** shows the respective importance of the main product groups.

As regards the Fuelwood sector, Madagascar imports negligible quantities of either fuelwood or charcoal.

As to Timber sector products, the breakdown of imports during the period 2000-2011 is as follows (quantities, rounded proportions): furniture 30%, logs 30% (exclusively hardwoods), plywood, other panels, mouldings & joinery 10% each, other wood 5%, sawn wood 2% (hardwoods too) and veneer 2%. The main proportion (two thirds) of already processed wood products (furniture, panels, mouldings & joinery, other wood) is easily understood given the rather weak processing industry. These proportions are fairly stable over the years.

Supplying countries:

Over the last decade until now, imports of all wood-based products together (i.e. Timber & Paper & Fuelwood sectors) by Madagascar, in which Paper products represent more than 80%, have come from 5 main origins (see **Figure 7** in ***Annex 8***). First about one third from South Africa, mainly for paper (about 40,000 m^3 RWE per year, relatively stable). Secondly from China, mainly for paper, but also for some processed timber products (from almost 0 until 2003 to about 40,000 m^3 RWE per year towards the end of the decade, increasing its position significantly). Then a steadily decreasing proportion from EU-27, mainly for paper (from 30,000 to 20,000 m^3 RWE per year). Then from Mauritius, also mainly for paper (10,000 m^3 RWE per year or more). And finally about one third (about 50,000 m^3 RWE per year) from various countries among which Thailand, Indonesia, Malaysia and India are the main ones.

As regards more precisely timber sector products, their imports show a slightly different breakdown between countries of origin. China is the main supplier, reinforcing its position: from very small quantities in 2000 to half the imports of timber products in 2011. EU-27 supplies relatively stable amounts but its proportion drops to about 10% of the timber product imports. A number of other countries supply the rest (about 50%). China supplies three quarters of the plywood imported by Madagascar. The source of imports of logs by Madagascar, which are not negligible and are all hardwood, cannot be specified. For 2010, the data from the customs mention that imported logs came all from South Africa, although the quantities they indicate are ten times smaller than the quantities provided by the UN Comtrade database for that year.

10. Trends and key issues

The evolution of the amounts of imports of wood-based products by Madagascar over the years turns out to be closely related to the level of the growth of the economy (same increases and decreases as the ones of the GDP). In spite of the drop in imports since 2009 at the same time as the recession, the imports of the country tend to increase. This is partly related to the decline of the national wood-processing industry.

As to the trends in exports, they are quite variable, under the influence of a number of factors. Among these, international demand, trade partnerships or evolution of the markets are heavy ones: steady decrease of exports towards EU-27, a market more and more careful about the durability of the production of the wood, and significant increase of the exports towards China.

But the influence of the variations of the legislation on timber exports on the level of these exports is also apparent. During the last two years and with the exception of sawn coniferous wood grown on plantations, Madagascar has exported very small quantities of wood-based products (and even exports of coniferous wood become more difficult). In a context of ever increasing international demand for timber, the challenge for Madagascar is to manage to leave the situation of periodical fluctuations between extremes: periods of uncontrolled tapping of the resources and periods of bans.

As regards the hardwoods, an important question, but difficult to answer, is how the situation will evolve. The logging outburst of 2009-2010 has shown that the precious wood resources were more extensive than

previously thought. But due to the scale of this logging campaign, there are signs that this resource in now getting exhausted (in the meantime specific studies on these species have been conducted in the framework of the CITES enlisting). The estimates of professionals of the sector (staff of the forest administration, national park managers, etc.) suggest that if no massive logging like in 2009-2010 takes place, that is to say in a situation of control like in 2004-2008 (involving smaller outbursts, or continuous low intensity underground logging), the remaining rosewood resources could not last longer than about 5 years.

Indeed, given the interests at stake, given the reports that some hidden rosewood logging is still going on in Masoala National Park and in some other areas which cannot be eliminated in the current governance context, it is unlikely that the problem will effectively be solved, so that rosewood resources are gradually disappearing, within the above mentioned estimated timeframe.

It is likely that ebony, relatively less targeted than rosewood until now, will be the next victim to be prosecuted for a few years until exhaustion. By then, the situation could change. On the one hand, the price of rosewood and ebony on the international market is much higher than the price of any other hardwood, so that one could hope a kind of respite (situation of the sector calming down). On the other hand, other influences could eliminate the chances of such a change and respite. Indeed, by that time the exhaustion of precious woods and fine hardwoods in the other tropical and equatorial forests could induce the election of new Malagasy hardwood species to the rank of highly prized precious woods. At the same time, the precious wood tycoons would do everything to find other sources of extremely high revenues from the forest to replace rosewood and ebony. There are already signs of this preoccupation to replace rosewood revenues: significant increase of illegal mining in the forests of the SAVA Region.

Another related trend observed since 2009 is the geographical extension of the problems of or attempts at precious wood logging, from the SAVA region to other regions. This concerns Analanjirofo Region (western Masoala National Park, central Makira protected area and Mananara National Park), Mahajanga area mainly. This is due to the gradual exhaustion of the rosewood standing stock in the SAVA Region (example: Marojejy National Park: rosewood exhausted). This apparently takes two forms: either the rosewood operators from the SAVA Region deploy and control new activities elsewhere, or operators of these new regions enter the business following the model of the SAVA operators.

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 & illegal harvesting & trade

As regards the whole forestry sector, an estimate of the magnitude of the undocumented logging has been given by comparing the estimated national consumption to the data of official / recorded production: see chapter 6.

Apart from precious woods, and possibly rosewood, it is unlikely that large amounts of timber are exported in an illegal and secret way to other countries. No reports have really mentioned such situation.

This question mainly concerns rosewood. Indeed, in relation to the successive periods of practically official "opening" (in theory authorization on some conditions) of exports and periods of total closure of the exports, two situations prevail:

"Open periods": most logging, transport and export activities have been carried out in an open way, in broad daylight. Part of the exports (a) is really official and appears, mixed with other hardwoods, in the Customs data (and then in the UN Comtrade database). Another part of the exports (b) corresponds to a multiplication of the activity compared to what is declared / allowed. For the rosewood crises of 2004, 2005 and 2008, there are no estimates (a) + (b) readily available. For the 2009-2010 crisis (2 years), these estimates (a) + (b) have been

provided by BALLET *et al*. (2010) and by RANDRIAMALALA & LIU (2010): about 37,000 t = 33,600 m^3 (which is equivalent to a little more than this in RWE as a little part of this has been exported as sawn wood) = around 220 million US$ FOB (in real value, about 6000 US$/ton, because declared values are strongly underestimated). It should also be noted that these exports of rosewood have brought money to the State (export tax, fines). BALLET & RAHAGA (2009) have evaluated these revenues for the State in 2009 to about 22 million US$ (value caught by the State). They evaluate that the benefits (profit margin) for the export operators have represented 75% of their turnover (165 million US$).

"Closed periods": in periods of more careful forest governance and better control like in 2006 or 2007, calm periods occurred and the rosewood logging effectively stopped (no signs of the activity observed in the forest). During those years, more precisely at the transition between open and closed periods, some signs and reports of an export activity carried out in a secret way were gathered, activity based on hidden stocks. No figures are available on the intensity of this export of hidden stocks during the closed periods, but it is believed to be limited compared to the volumes exported during "open periods".

An argument sometimes heard is that forbidding the export has no effect because the open logging is then simply replaced by a form of hidden logging. This seems to be an exaggeration because the volumes of the first form are of a different order of magnitude compared to the volumes of the second form. The closing really slows down the process of "mining" of rosewood, compared to a situation where restrictions would be applied at no time.

11.2 Main types of illegal logging cases: rosewood logging

Rosewood logging for export is by far the main type of "illegal" logging in Madagascar, based on the value of the products. A good summary of the nature and mechanisms of the "illegal" rosewood logging is given by ONI (2012) and a detailed analysis is also provided by Global Witness & EIA (2009). Additionally, RANDRIAMALALA & LIU (2010) have listed the different forms of irregularities and abuses in the rosewood sector.

In summary the main reasons for this type of logging are as follows:

1. The legislation fluctuates between periods of interdiction of exports and authorization of exports (while the logging is generally forbidden).
2. In parallel to the fluctuation of closures and openings, the operators build up large stockpiles. In spite of official operations of inventory of these stockpiles by the administration, they are not traced and cannot be properly monitored. Each time the exports are allowed from these stocks, it creates a draft so that the stocks are replenished by new cuttings: problem of the "elastic stocks".

   As a result, the wood is more or less legally exported (the regulations allowing this export can be irregular) but was illegally harvested: not with a valid logging title, most of the time in protected areas, in contradiction with the regulations of the last years anyway forbidding any logging of rosewood, the logs are not marked by the forest hammer of the administration.
3. There are hardly any sanctions when offenders are caught illegally logging and few sanctions when they are caught illegally exporting.
4. Seizures are handled in such a way as they have no deterrent effect because the wood is reintroduced in the export circuit, too often via the same offender.

11.3 Main types of illegal logging cases: in-country market

If volume is considered, then all forms of illegal logging for the national market are the main type of "illegal" logging in Madagascar and the main concern (see above points 6 and 10.1).

It should be noted that in a context where a marginal number of soundly based, legal and monitored logging titles are issued, the word "illegal logging" loses some of its meaning.

The main possibilities that exist of illegal logging have been listed in paragraph 4.5 (tracing).

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

12.1 Stakeholder perceptions of illegal logging

The position and roles of the stakeholders involved in the sector has been introduced in paragraph 3, 4.2 and 4.3.

The rosewood barons erroneously use the argument that there is rosewood regeneration in the forest[3] and that they are heavily affected by the economic crisis so that the resuming of the exports is justified.

As to the local populations living near the forests that have been recently heavily logged, an event which has for a time radically changed the local economy (typical "gold rush") as depicted by RANDRIAMALALA (2010), mixed attitudes are encountered. On the one hand, they have taken part to the operations, either as guides, or as logging labour force (most of it coming from sub-urban areas though), or in some sort of logistical support activity. Compared to their normal economic level, they have made substantial profits too, even if prices of all commodities have increased at the same time and the local economy has in fact been totally disturbed. On the other hand, in some cases, like around Marojejy National Park, as reported by Global Witness & EIA (2009) and RANDRIAMALALA & LIU (2010), they have been strongly opposed to the looting of the forest.

12.2 Challenges and the way forward

As regards illegal rosewood logging, there are three main problems: (i) the financial power of the rosewood mafia, (ii) the influence of this mafia on the highest authorities and (iii) the influence of this mafia on the judicial system.

It seems that a Government with political will to change the situation would need to be backed extremely strongly and would need to deploy sustained efforts to be able to modify this situation.

For the moment, it does not seem likely that a solution on the rosewood issue will emerge (CCPTF-E partners do not even really agree on the way forward to propose) and that a fundamental change will occur.

On the other hand, the ~34,000 m^3 of rosewood exported in 2009-2010 should not hide the fact that something like 22 million m^3 RWE of wood are annually consumed in Madagascar. So even if the sector as a whole is under the negative influence of rosewood problems, there are many other challenges to address.

The first concern is about forest management, it is where action is mostly needed. Fortunately, if a period a political stability occurs, the allocation of logging titles through tender procedures will bring rapid progress, now that public awareness has arisen.

13. Conclusions and recommendations

In the current situation, it is difficult to envisage the real start of a FLEGT process in Madagascar. First, the process of official cooperation with the Government is not normalized, which is a constraint to engage a dialogue on some reforms.

Then, it represents a huge task as most components of a FLEGT system have to be established. For a start, "legal" wood trade has very limited meaning. Furthermore, improvements of the conditions of forest management are a kind of pre-requisite without which a FLEGT process would have limited substance, impacts and viability.

[3] If there are seedlings in the logged areas (last generation), the process of regeneration is stopped, as there are no seed trees left.

In any case, the implementation of a FLEGT process, like the development of certification schemes will be a difficult task given the limited incentives and points of leverage in a context where the most important exports are more and more towards Asia.

Little work will be possible on the Trade aspect if the Governance aspect is not addressed. And when work on the Governance aspect becomes feasible, then it will be necessary to work on the Trade aspect at the same time, as an incentive (FLEG model insufficient).

In the meantime, the application of the EU timber legislation is the expected next useful evolution. Another desired evolution is the enlisting of Malagasy precious wood species in Annex II of CITES (although it is not guaranteed that it will be a decisive leverage point, as long as this is not secured it is one missing piece among the possible tools to influence the situation). Another evolution to encourage is to maintain at all times a ban on exports of logs. The support of relentless activities of monitoring, observation and disclosing of the information on what is going on in the sector remains essential. At the same time, while institutional reforms are difficult to influence, it remains highly desirable to support site based actions towards improved forest management (strengthening of management transfers to local communities / support to private forestry). Of course, in all these processes, the support to the civil society should be sustained.

14. References

BALLET, J.; RAHAGA, N. (2009). Impact économique des arrêtés autorisant les exportations de bois précieux à Madagascar: 2009. C3ED-M / PGM-E / GTZ. 30 p.

BALLET, J.; LOPEZ, P.; RAHAGA, N. (2010). L'exportation de bois précieux (*Dalbergia* et *Diospyros*) "illégaux" de Madagascar: 2009 et après? Madagascar Conservation & Development. Vol.5, Issue 2, December 2010. 7 p.

BERTRAND, A. (2007). Renforcement des transferts de gestion par l'amélioration des techniques d'exploitation du bois d'œuvre et du contrôle forestier. Rapport de mission. Projet GESFORCOM. UE / CIRAD. 28 p.

BLONDEL, N.; SALAVA, H. (2006). L'exploitation illicite de bois précieux dans le Parc National de Masoala: la crise de 2004 et 2005 perdure. PNM-ANGAP / WCS. 8 p.

BLONDEL, N.; SALAVA, H. (2008). L'exploitation illicite du bois de rose dans le Parc National de Masoala: le cycle du pillage a repris. PNM-ANGAP / WCS. 9 p.

CANBY, K. ; HEWITT, J. ; BAILEY, L. ; KATSIGRIS, E. ; XIUFANG, S. (2008). China and the global market for forest products. Implications for forests and livelihoods. Forest products trade between China and Africa. An analysis of imports and exports. Forest Trends / Global Timber / SIDA / DFID / Foreign & Commonwealth Office. 20 p.

CCPTF-E (2012). Lettre au Ministre de l'Environnement et des Forêts au sujet de l'Arrêté 0741/2012 du 18 janvier 2012. 2 p.

DEBOIS, R. (2009). La fièvre de l'or rouge saigne la forêt malgache. Univers Maoré 13 : 8-15.

DEBONNET, G. ; MAUVALS, G. (2011). Mission de suivi de l'état de conservation des Forêts humides de l'Atsinanana, Madagascar. Rapport de mission du 23 au 31 mai 2011. UNESCO. 35 p.

Direction Générale des Douanes (2010). Tarif des douanes. 293 p.

DREF Atsinanana (2011). Rapport d'activités annuel de la Direction Régionale de l'Environnement et des Forêts Atsinanana. MEF. 47 p.

DUHEM, C. (2007). Evaluation des systèmes de contrôle forestier et de collecte des ristournes dans la Commune de Didy. Rapport de mission. Projet GESFORCOM / UE / CIRAD. 34 p.

EIA, Global Witness, Zoo Zürich, MBG, St Louis Zoo, Field Museum, Madagascar Fauna Group (2012). Déclaration des organisations internationales et environnementales de la société civile concernant les actions du Gouvernement de Madagascar visant à combattre l'exploitation forestière illégale. 2 p.

ELISON, A. (2009a). Délégation de gestion des forêts de l'Etat. Projet de décret et de textes d'application. MEF / USAID / IRG / Projet JariAla / SORITRA. 41 p.

ELISON, A. (2009b). Projet de Décret sur les titres de prélèvement dans les forêts de l'Etat. MEF / USAID / IRG / Projet JariAla / SORITRA. 30 p.

FANAMBY, MBG, CI, Plant Resources of Tropical Africa, WCS, Durell Wildlife Conservation Trust, WWF, The Peregrine Fund, Man & the Environment, Madagascar Fauna Group, ICTE (2009). Communiqué : l'arbre ne doit pas cacher la forêt : le patrimoine des Malagasy en déperdition. 2 p.

FAO (2010). Evaluation des ressources forestières mondiales 2010. Rapport national Madagascar. FRA 2010. 57 p.

FCPF (2010). Proposition de mesures pour l'état de préparation (R-PP) à Madagascar. Fonds de Partenariat pour le Carbone Forestier. 107 p.

GANOMANANA, T. ; HERVE, D. ; RANDRIAMAHALEO, S. (2011). Dynamique institutionnelle des transferts de gestion dans le corridor Fandriana-Vondrozo. Madagascar Conservation & Development. Vol.6, Issue 1, June 2011. 7 p.

GERP (2011). Etat des lieux des valeurs universelles exceptionnelles dans les secteurs perturbés du Parc National de Masoala (inventaire biologique). 111 p.

GESFORCOM (2008). Gestion communale, gestion communautaire et développement local: vers une co-gestion décentralisée des ressources forestières. Madagascar, Mali, Niger. Le projet GESFORCOM. UE / CIRAD 8 p.

GISC (2009). Etude sur la production et la consommation en produits forestiers ligneux à Madagascar. Version actualisée 2009. JariAla Project / IRG / USAID. 33 p.

Global Witness and EIA (2009). Investigation into the illegal felling, transport and export of precious wood in SAVA Region, Madagascar. In cooperation with MNP, ONESF and the Forest Administration of Madagascar. 41 p.

Global Witness and EIA (2010). Investigation into the global trade in Malagasy precious woods: rosewood, ebony and palissander. In cooperation with MNP, ONESF and the Forest Administration of Madagascar. 20 p.

HAT (2011). Projet de Loi n° 015/2011 du 1er décembre 2011 portant loi de finances pour 2012. Présidence de la Haute Autorité de la Transition. 152 p.

HOCKLEY, N.; ANDRIAMAROVOLOLONA, M. (2007). The economics of community forest management in Madagascar: is there a free lunch? An analysis of *Transfert de Gestion*. USAID. Development Alternatives. 81 p.

INNES, J. (2010). Madagascar rosewood, illegal logging and the tropical timber trade. Madagascar Conservation & Development. Vol.5, Issue 2, June 2010. 5 p.

IUCN (1994). Guidelines for Protected area management categories.

IRG (2005). Support sustainable environment and forest ecosystems management in Madagascar. Report on an action plan to improve governance in the forestry sector. MINENVEF / USAID / JariAla Project. 38 p.

IRG (2007a). Etude sur la mise en place d'un système de gestion des permis et de traçabilité des produits forestiers. MEEFT / DGEF / USAID / Projet JariAla. 33 p.

IRG (2007b). Procédures détaillées du système de gestion des permis et de traçabilité des produits forestiers et mise en oeuvre de la phase test. MEEFT / DGEF / USAID / Projet JariAla. 37 p.

IRG (2007c). Etablissement des normes nationales en matière d'aménagement forestier. MEEFT / DGEF / USAID / Projet JariAla. 33 p.

JARIALA (2009a). Proposition de loi sur les pénalités et amendes dans le secteur forestier. MEF / USAID / IRG / Projet JariAla. 18 p.

JARIALA (2009b). Proposition de textes réglementaires sur la réorientation du Fonds forestier. MEF / USAID / IRG / Projet JariAla.

JARIALA. (2009c). USAID/JariAla: results of 5 years of intervention. 8 summary sheets. 16 p.

KARSENTY, A. (2008). Chaîne de valeur du bois d'œuvre et perspectives de mise en place de paiements pour services environnementaux dans la forêt d'Ambohilero. Rapport de mission. Projet GESFORCOM / UE / CIRAD / FOFIFA / PARTAGE. 26 p.

KULL, C. ; RATSIRARSON, J. ; RANDRIAMBOAVONJY, G. (1999). Les forêts de tapia des Hautes Terres malgaches. 58 p.

LEWIS, J.M.; RAHAGA, N. (2008). Analyse et mise à jour de la fiscalité forestière à Madagascar. Projet JariAla / IRG / USAID. 59 p.

LISAN, B. Annuaire de la reforestation et de la protection des forêts primaires à Madagascar. Liste des ONG, organismes, acteurs et sociétés agissant pour la reforestation et la préservation des forêts à Madagascar. 35 p. Disponible sur le site internet : http://bois.fordaq.com/fordaq/Pays/c141/Madagascar.html

LOPEZ, P. ; RICHTER, F. ; SEPP, S. ; PALMENTIER, A. (2007). Le reboisement villageois individuel. Stratégies, techniques et impacts de GREEN-Mad dans la région d'Antsiranana, Madagascar. GTZ / ECO Consult / Projet GREEN-Mad. 114 p.

MEEFT (2006). Manuel de procédures pour la gestion de la faune et de la flore sauvages de Madagascar. JariAla / USAID / Coopération Franco-Malgache. 54 p.

MEF (2009). Quatrième rapport national de la Convention sur la Diversité Biologique, Madagascar. PNUE. 120 p.

MEF (2011). Proposition d'intégration des bois précieux (*Dalbergia spp*., *Diospyros spp*. dans l'Annexe II de la CITES. Document soumis à la 20ème session du Comité CITES pour les Plantes à Dublin, mars 2012. 90 p.

MEFT (2008). Manuel de procédures du contrôle forestier. DGEF / USAID. 155 p.

MEFT, USAID & CI (2009). Evolution de la couverture de forêts naturelles à Madagascar, 1990-2000-2005. 58 p.

MONTAGNE, P. (2010). Gestion communale, gestion communautaire et développement local: résultats du projet GESFORCOM Madagascar. UE / CIRAD / FOFIFA / PARTAGE. 24 p.

MONTAGNE, P. ; RAZAFIMAHATRATRA, S. ; RASAMINDISA, A. ; CREHAY, R. (2010). Arina. Le charbon de bois à Madagascar : entre demande urbaine et gestion durable. UE / CIRAD / PARTAGE / FOFIFA / Centre wallon de Recherches agronomiques / Projet CARAMCODEC. 170 p.

ONESF (2010). Textes et notes concernant la gestion des ressources forestières. 3 p.

ONI (2012). Dossier bois de rose: pour une intégrité efficace de la gouvernance forestière. 7 p.

PATEL, E. (2007). Logging of rare rosewood and palissandre (*Dalbergia spp*.) within Marojejy National Park, Madagascar. Madagascar Conservation & Development. Vol.2, Issue 1, December 2007. 6 p.

PATEL, E. (2010). Madagascar's illegal logging crisis: an up-date and discussion of possible solutions. Lemur News, Vol.15, 2010, p. 2-7.

PEDRONO, M. ; SAROVY, A. (2008). Elaboration de la méthode de suivi environnemental et de la définition des critères et indicateurs de gestion durable. Rapport de mission. Projet GESFORCOM / UE / CIRAD. 47 p.

RABEMANANJARA, Z. (2012). Enquête des marchands et transformateurs de bois dans la ville d'Antananarivo et ses environs. Rapport de mission. Projet ACP-FLEGT "Appui à l'administration forestière dans le contrôle et le suivi des provenances des produits forestiers sur le marché de la ville d'Antananarivo". UE/FAO/Fondation Tany Meva. 12 p.

RAMAMONJISOA, B. (2006). Study report on forest products exported from Madagascar to South Africa. ESSA-Forêts. 14 p.

RAMAMONJISOA, B. (2011). Rapport de l'étude sur l'analyse de la gouvernance dans le secteur de l'environnement. AVG. 35 p.

RAMBININTSAOTRA, S.; ANDRIANANTENAINA, M. (2010). Etudes pour le recueil et l'analyse des textes forestiers. AVG - ONESF. 123 p.

RAMBININTSAOTRA, S.; ANDRIANANTENAINA, M. (2011). Deuxième étude pour le recueil et l'analyse des textes forestiers: mission de terrain et recommandations. AVG - ONESF. 46 p.

RANDRIAMALALA, H.; LIU, Z. (2010). Bois de rose de Madagascar: entre démocratie et protection de la nature. Madagascar Conservation and Development 5,1: 11-22. Supplementary material. 52 p.

RANDRIAMALALA, H. (2011). The rosewood chronicles. 25 p.

RANDRIAMALALA, H.; RASARELY, E.; RATSIMBAZAFY, J.; BRIZZI, A.; BALLET, J.; RAZAKAMANARINA, N.; RATSIFANDRIHAMANANA, N.; SCHUURMAN, D. (2011). Stocks de bois précieux de Madagascar – quelle voie emprunter? Madagascar Conservation & Development. Vol.6, Issue 2, December 2011. 9 p.

RANDRIANANTOANDRO, R.O. (August 2005). Vision Durban : créer des aires protégées et détruire celles qui existent?! Article de presse. Les Nouvelles.

RANDRIANARIVELO, G. (2008). Transfert de gestion, traçabilité et contrôle forestier décentralisé dans le cadre du Schéma d'Aménagement Intercommunal Didy-Andaingo. Rapport de mission. Projet GESFORCOM / UE / CIRAD. 37 p.

RANDRIANTSOA, R. (2010). Etude sur l'état des lieux des grands périmètres de reboisement de Madagascar (Fanalamanga et Haute Matsiatra). ONESF. 82 p.

RAPANOELA, R. ; RAMAMONJISOA, B. (2004). Etude de marché des bois d'œuvre issus des forêts de Madagascar. Outils de travail pour une promotion et diversification de la production de bois d'œuvre. CIRAD / ESSA-Forêts / FOFIFA. 64 p.

RAZAFIARITIANA, A.; MONTAGNE, P.; RANDRIANARIVELO, G.; RANDRIAMBININTSOA, E. (2011). Manuel de formation en valorisation raisonnée de bois d'oeuvre. UE / FFEM / CIRAD / projets GESFORCOM et COGESFOR. 15 p.

RIDDER, R.; TUOMASJUKKA, T.; MATHU, W. (2008). Back to office report of the FLEGT Fact Finding Mission to East Africa. EFI. 16 p.

SALAVA, H.; BLONDEL, N. (2005). Rapport sur la situation préoccupante relative à l'exploitation illicite de bois précieux dans le secteur d'Antalaha du Parc National de Masoala. PNM-ANGAP / WCS. 5 p.

SCHUURMAN, D. (2009). Illegal logging of rosewood in the rainforests of northeast Madagascar. TRAFFIC. Bulletin 22(2): 49.

SCHUURMAN, D.; LOWRY II, P. (2009). The Madagascar rosewood massacre. Madagascar Conservation & Development. Vol.4, Issue 2, December 2009. 5 p.

SOLA, P. (2011a). Status of Forest Law Enforcement, Governance and Trade in the Southern African Development Community. SADC / AFF. 34 p.

SOLA, P. (2011b). Forest Law Enforcement and Governance and Trade in the Southern African Development Community. AFF. Working Paper Series, vol.(1)9, 51 p.

STASSE, A. (2002). La filière bois de rose. Région d'Antalaha – Nord-est de Madagascar. Mémoire de mastère. Université de Montpellier. 95 p.

TEGTMEYER, R.; JOHNSON, A.; RASARELY, E.; BURREN, C.; ROBINSON, D.; BAUERT, M.; SORG, J.P. (2010). Independent Forest Monitoring in Madagascar. Madagascar Conservation & Development. Vol.5, Issue 1, June 2010. 8 p.

SOA hoan'i Madagasikara (2008). Filière bois de rose: entre mythe et réalité. Article de presse. 7 p.

URP Forêts et Biodiversité (2006). Révision de la classification des bois malgaches. Diaporama. CIRAD / MINENVEF. 19 diapositives.

WILME, L.; SCHUURMAN, D.; LOWRY II, P.; RAVEN, P. (2009a). Precious trees pay off - but who pays? Madagascar Conservation & Development. Vol.4, Issue 2, December 2009. 1 p. (poster).

WILME, L.; SCHUURMAN, D.; LOWRY II, P.; RAVEN, P. (2009b). Precious trees pay off - but who pays? An update. Document prepared for the COP15, Copenhagen meeting, December 2009. 1 p. (poster).

Annexes

Annex 1 - Organization of the field mission

The present country report presents the results of the desk study carried out from March to May 2012 and the mission in Madagascar from 17 April to 4 May 2012.

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;
- Touring in the Eastern and North-Eastern region: Vohemar, Sambava, Antalaha, Toamasina, Moramanga. Visit of the ports, meetings with decentralized forestry authorities and national park staff, visit of wood processing units and sites;
- Complementary meetings, collection of data and analysis in the capital.

The experts were well received by the different services and stakeholders and were given access to most available data. The main difficulties met concern (i) the very tight schedule compared to the scope of the study, the size of the country (travel implications), the variable condition of the different databases on the wood sector and the intricacy of the subject; (ii) the beginning of the mission which happened to coincide with the change of Minister in charge of Forests (hand-over period).

Annex 2 - List of people met – Mission schedule

N°	Nom & Prénom	Titre / Fonction / Organisation / Institution
1	RAKOTOMAVO Tsiory	Chargée de programme Délégation Union Européenne
2	Philippe DROMARD	Responsable section Politique Agricole Délégation Union Européenne
3	RASARELY Etienne	Coordonnateur de l'Observatoire National de l'Environnement et du Secteur Forestier (ONESF). Chef du projet FLEGT "Veille et interpellation autour de la gouvernance de l'exploitation et de la commercialisation des ressources forestières"
4	RAKOTONDRABE Bernard	Responsable Audit de la gouvernance Observatoire National de l'Environnement et du secteur Forestier (ONESF)
5	RAMBELOARISOA Gérard	Directeur des opérations MADA WOODLANDS, et, Président Association Initiative pour la Certification Forestière à Madagascar (ICFM) ;
6	Fitzerald RAZAFINDRASATA	Membre Association Initiative pour la Certification Forestière à Madagascar (ICFM)
7	Edmond RANDRIANARIVONY	ONG Reggio Terzo Mondo, Membre ICFM
8	RANDRIANARISOA Pierre Manganirina	Secrétaire Général Ministère de l'Environnement et des Forêts
9	Pierre MONTAGNE	Chercheur CIRAD Madagascar, URP Forêts et Biodiversité et Chef des projets COGESFOR, GESFORCOM, BIOENERGELEC
10	RANDRIAMANANORO Monique	Fondation malagasy en Environnement Tany Meva, Responsable projet FAO ACP-FLEGT Support Programme « Appui au suivi des provenances des bois sur le marché de bois dans la ville d'Antananarivo »
11	Jacqueline UWAMWISA	Responsable section Sécurité Alimentaire Délégation Union Européenne
12	RAJAONARISON Joëlle	Chargée de programme Section Gouvernance, Economie et Secteurs sociaux Délégation Union Européenne
13	RABEMANANTSOA Jean Claude	Directeur Général des Forêts (DGF)
14	RAZAFINJATOVO Ndriana	Chef du Service Promotion Bio énergie et Valorisation des produits forestiers (SPBEVPF) /DVRN/DGF
15	Philippe COLLAS de CHATELPERRON	Société SATOB Sarl
16	RABERIAKA Aurélien	Adjoint Technique des Eaux et Forêts assermenté, Chef Cantonnement forestier Vohémar
17	BEMANORO Armand	Chef Triage forestier Vohémar
18	RAKOTOMANDROSO Liva	Chef de poste Brigade Bureau des Douanes port Vohémar
19	RABARISON Rolland	Agent poste Brigade Bureau des Douanes port Vohémar
20	RAMAMY Alfred	Liquidateur des déclarations Recette Bureau des Douanes Vohémar, Receveur p.i
21	RANDRIANARISOA Manda	Responsable Site informatique, Bureau Recette des Douanes Vohémar
22	TOMBOSON Sylvestre	Adjoint Technique des Eaux et Forêts assermenté, Chef Cantonnement forestier Sambava
23	RANAIVOSON Isidore	Collaborateur Cantonnement forestier Sambava
24	RAKOTOMALALASAMIMANANA Jacob	Menuisier Antanifotsy I Sambava
25	RAMAMONJISOA	Adjoint Technique des Eaux et Forêts assermenté, Chef Cantonnement forestier Antalaha
26	RAVOTSIRAVELO Philomène	Collaboratrice à la CIREF Antalaha
27	ANDRIANJARA Hamavatra Hervé	Responsable Conservation et Recherche terrestre Parc National de Masoala MNP-ANGAP
28	THUNAM Roger	Exploitant - Transformateur – Exportateur Bois travaillés Ebène – Bois de rose – Palissandre – Autres bois exotiques à Antalaha - Société THUNAM ROGER
29	TSION	Exploitant - Transformateur – Exportateur Bois travaillés Ebène – Bois

N°	Nom & Prénom	Titre / Fonction / Organisation / Institution
		de rose – Palissandre – Autres bois exotiques à Antalaha - Société THUNAM ROGER
30	BOTOVAVY Dieudonné	Ingénieur des Eaux et Forêts, Directeur Régional de l'Environnement et des Forêts, Région Atsinanana
31	FANAHIANA Marius	Adjoint technique des Eaux et Forêts assermenté, Agent de constatation Exportation port Tamatave
32	RALAIVAONIRINA Joëlson	Ingénieur des Eaux et Forêts, Chef du Service Régional de l'Investigation et du Contrôle (SRIC), DREF Atsinanana
33	RATSIMBAZAFY Andrianaivo Lala	Chef Cantonnement forestier Tamatave
34	ANDRIAMANANTENASOA Rado	Coordonateur Bureau Recette des Douanes Tamatave, Receveur p.i.
35	HAINGONANDRIANINA Felaniaina Joséa	Service Exportation Transit SEAL Tamatave
36	ANDRIAMANANTENASOA Jean Marc	Service Exportation Transit SEAL Tamatave
37	RANAIVOHARIMANALINA Tsiritseheno	Chef Circonscription de l'Environnement et des Forêts Moramanga (CIREF), DREF Alaotra Mangoro
38	RAKOTONDRAMASY Jules	Chef Cantonnement forestier Moramanga, CIREF Moramanga
39	RAJAONA Joé Wilfrid	Directeur d'usine PANOMAD Moramanga
40	Aymeric PENIN	Société d'Exploitation – Transformation – Exportation de bois - BOIS DE MADAGASCAR - Moramanga
41	M. Philibert	Préposé de l'usine SOFAM
42	ANDRIAMAMPIANINA Lantoniaina	Directeur du Programme terrestre de WCS
43	Christian BURREN	Programme REDD de WCS
44	RAZAFINDRAKOTO Benjamin	Association PARTAGE. FAO ACP-FLEGT Support Programme "Projet d'appui à la légalité et à la traçabilité de l'exploitation communautaire de bois d'oeuvre"
45	SALAVA Haja	Directeur du Parc national de Masoala (MNP-ANGAP)
46	VIA Sabine	Ingénieur des Eaux et Forêts, Directeur de la Valorisation des Ressources Forestières (DVRN)
47	RABESIHANAKA Sahondra	Ingénieur des Eaux et Forêts, Chef du Service de la Gestion de la Faune et de la Flore (SGFF) /DVRN/DGF
48	ANDRIATSIMANDATSY Oellerick Basile	Collaborateur du Chef de Service Promotion Bio énergie et Valorisation des produits forestiers (SPBEVPF) /DVRN/DGF
49	RABENASOLO SOLOFONIAINA Eric	Ingénieur des Eaux et Forêts, Chef du Service de l'Aménagement Forestier et de la Délégation de Gestion des Ressources Forestières (SAFDGRF) DVRN/DGF
50	RAHARIMANIRAKA Lydie	Coordonnateur du « Projet d'amélioration de la gouvernance des filières de production et de commerce des bois précieux à Madagascar » FAO (TCP/MAG/3304)
51	RAMBELOSON François Richard	Ingénieur des Eaux et Forêts, Directeur du Contrôle et de l'Amélioration de l'Intégrité (DCAI)
52	James MACKINNON	Directeur Technique de CI Madagascar
53	RANDRIAMIHARISOA Delphin	Délégation de l'Union Européenne
54	RABENJA Eric Narivony	Directeur des Statistiques et de la Comptabilité douanière/Direction Générale des Douanes Antananarivo
55	ANDRIAMANALINA Roger Luc	Responsable Service de Gestion des Bases de Données Forestières (SGBDF)
56	RAMAMONJISOA Bruno	Chef du Département ESSA-Forêts (Ecole Supérieure des Sciences Agronomiques – Forêts) Université d'Antananarivo
57	ANDRIANARIVONY Rina	Fuelwood and Alternatives Programme Officer WWF. Responsable du projet FAO ACP-FLEGT Support Programme "Réglementation de la filière bois énergie dans le sud ouest de Madagascar".
58	HAJANIAINA Olina	Conseiller Technique PGM-E GIZ
59	ANDRIAMBOLATIANA Irina	Conseiller Technique PGM-E GIZ

N°	Nom & Prénom	Titre / Fonction / Organisation / Institution
60	RAZAKAMANARINA Ndranto	Président de l'Alliance Voahary Gasy

MISSION SCHEDULE

Date	Place of Performance	Activities
17 April	Flights / Antananarivo	Mission to Madagascar : Travel Brussels – Antananarivo
18	Antananarivo	Briefing at EU Delegation. Briefing of the local expert and further steps to organize the mission. Meeting at National Watchdog of the Sector of Environment and Forests.
19	Antananarivo	Meeting with members of the Initiative for Forest Certification in Madagascar. Meeting with Secretary General of Ministry of Environment and Forests. Further steps to organize the field tour. First meeting with Tany Meva FAO-FLEGT project. Meeting with CIRAD URP Forêts et Biodiversité.
20	Antananarivo	Second meeting with Tany Meva FAO-FLEGT project. Second meeting at EU Delegation. Meeting with Director General of Forests.
21	Antananarivo	Work with the local expert. Further steps to organize the field tour. Meeting with Director of SATOB sawmill and certified forest estate manager.
22	Flights / Vohémar	Travel by air and road Antananarivo – Sambava - Vohémar
23	Sambava	Meeting with forest administration of Vohémar. Meeting with customs at Vohémar port. Travel by road Vohémar – Sambava.
24	Antalaha	Meeting with forest administration of Sambava. Visit of the workshop of a carpenter in Sambava. Travel by road Sambava - Antalaha. Meeting with forest administration of Antalaha. Meeting with Assistant Warden of Masoala National Park.
25	Flights / Toamasina	Second meeting with forest administration of Antalaha. and Assistant Warden of Masoala National Park. Meeting with Roger Thu Nam, operator in Anatalaha, and visit of his sawmill and wood processing unit. Travel by road and air Antalaha - Sambava - Antananarivo – Toamasina. Further steps to organize the end of the field tour.
26	Toamasina	Meeting with forest administration of Toamasina (Tamatave). Meeting with customs at Toamasina port.
27	Moramanga and surroundings	Meeting with SEAL forwarding agent. Travel by road Toamasina – Moramanga. Meeting with forest administration of Moramanga. Meeting and visit of fibreboard factory PANOMAD. Meeting and visit of sawmill Bois de Madagascar.
28	Travel / Antananarivo	Second meeting and visit of sawmill Bois de Madagascar. Visit of charcoal making sites near Moramanga (supplying the market of Antananarivo). Travel by road Moramanga - Antananarivo.
29	Antananarivo	Work with the Team Leader of the study (technical coordination, etc.).
30	Antananarivo	Meeting with staff of WCS. Meeting with the officer in charge of wood exports at the Direction General of Forests. Meeting with PARTAGE FAO-FLEGT project. Work with the Team Leader of the study. Further steps to organize the end of the mission.
01 May	Antananarivo	Work with the Team Leader of the study. Meeting with the Director of Masoala National Park (MNP – ANGAP).
02	Antananarivo	Meetings and working sessions with several Directors and officers at the Direction General of Forests: DVRN, CITES Management unit, officer in charge of wood exports, FAO project on Precious wood governance, officer in charge of forest management, DCAI. Meeting with the Technical Director of Conservation International.
03	Antananarivo	Debriefing at EU Delegation. Meeting with the Director of Statistics of the Customs. Meeting / working session with the officer in charge of databases at the Direction General of Forests / DSI. Meeting with the Head of ESSA-Forêts at the University of Antananarivo. Meeting with the WWF FAO-FLEGT project. Meeting with officers of the PGM-E programme of GIZ. Work with the local expert.

Date	Place of Performance	Activities
04	Flights	Travel Antananarivo – Paris – Brussels. End of mission in Madagascar
22		Meeting with the President of the Alliance Voahary Gasy (by Skype).

Annex 3 - Map of the forest resources of Madagascar

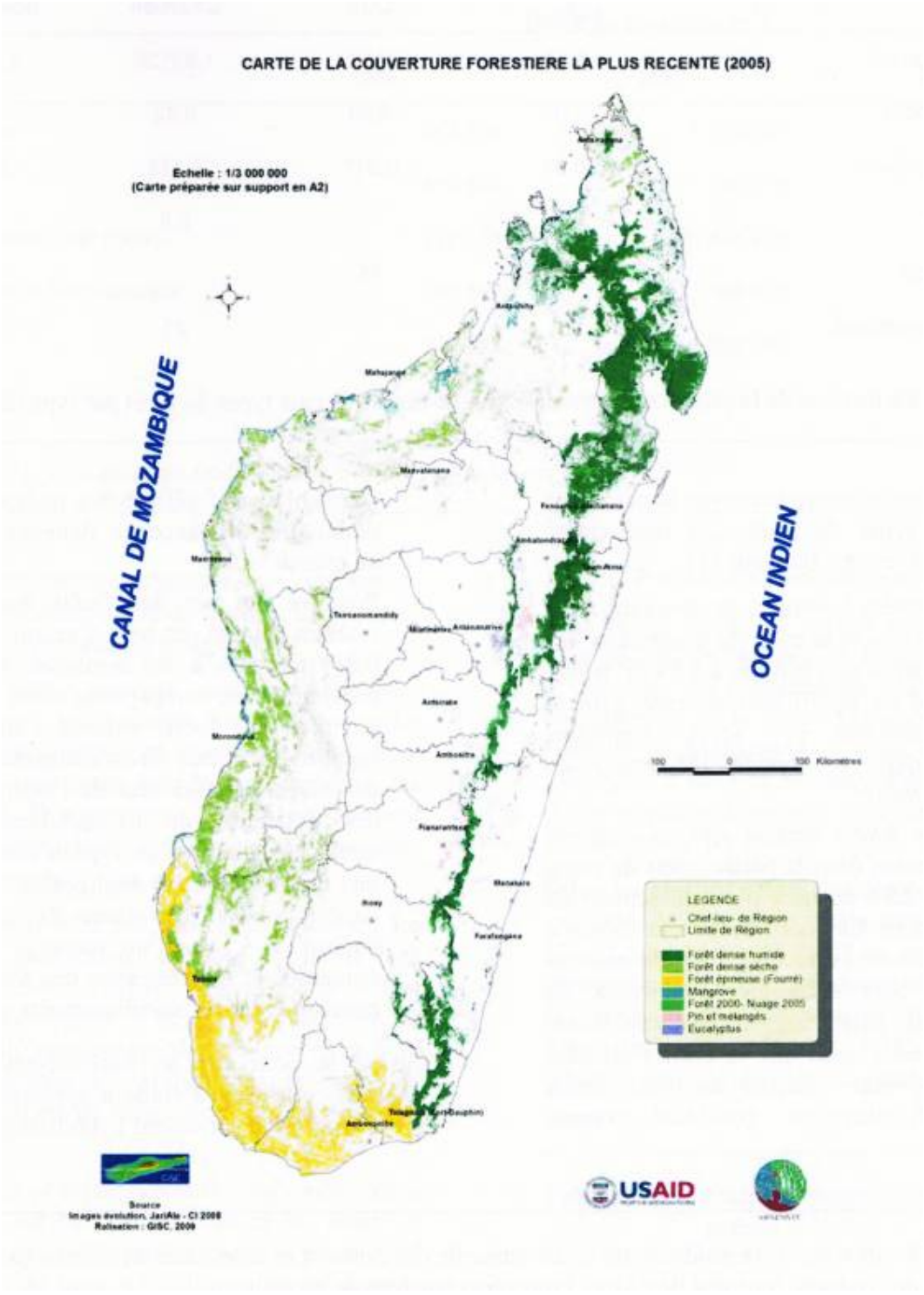


Figure 3 Map of the forest resources of Madagascar
(see legend in English next page)

Legend in English of the map of forest resources		
		Regional boundary
	Dark green	Rainforest
	Light green	Dense dry forest
	Yellow	Spiny woodland or bushland
	Green-blue	Mangrove
	Pale pink	Pine plantations (and mixed plantations)
	Blue	Eucalyptus plantations

Annex 4 - Additional information on legal texts concerning forest resources

Hierarchy of legal texts:

1. Constitution
2. Law ("Loi")
3. Ordinance ("Ordonnance")
4. Decree ("Décret")
5. Interministerial Order ("Arrêté Interministériel") : signed by the concerned ministers
6. Ministerial Order ("Arrêté Ministériel") : signed by the concerned minister
7. Decision ("Décision"): signed by the Minister or Secretary General
8. Ministerial Note / Memorandum ("Note ministérielle" / "Note de Service", "Circulaire"): signed by the Minister or Secretary General or Director General

List of the main texts of the legislation governing the forestry sector and logging

Texts in grey characters are no longer in force, according to the analysis of RAMBININTSAOTRA & ANDRIANANTENAINA (2010). They are kept here to illustrate the recent evolution of the legislation, but more importantly because some professionals of the forest sector do not know they are no longer valid.

Note: in the list of texts on logging and exports below, the note “OUVERTURE” or “FERMETURE” is an indication of the main effect of the concerned texts on the logging and / or export of timber, but in a few cases this effect is not clear-cut.

Fundamental texts:

Loi 97-017 du 8 août 1997 (Loi forestière).

Décret 98-781 du 16 septembre 1998 fixant les conditions générales d’application de la loi 97-017. (Abrogé selon RAMBININTSAOTRA & ANDRIANANTENAINA par le Décret 2005-849)

Décret 98-782 du 16 septembre 1998 relatif au régime de l’exploitation forestière.

Décret 2005-849 du 13 décembre 2005 portant refonte des conditions générales d'application de la loi 97-017.

Décret 97-1200 du 2 octobre 1997 portant adoption de la politique forestière malagasy. 36 p. (texte en français et malgache).

Loi 96-025 du 30 septembre 1996 relative à la gestion locale des ressources naturelles renouvelables. Dite "loi GELOSE".

Décret 1998-610. (Décret d'application de la loi GELOSE).

Décret 2000-027 du 13 janvier 2000 relatif aux communautés de base chargées de la gestion locale des ressources naturelles renouvelables. (Décret d'application de la loi GELOSE).

Décret 2000-028. (Décret d'application de la loi GELOSE).

Décret 2001-122 du 14 février 2001 fixant les conditions de mise en œuvre de la gestion contractualisée des forêts de l’Etat. (GCF)

Loi 2001-05 du 11 février 2003 portant Code des Aires Protégées. (COAP)

Décret 2005-013 du 11 janvier 2005 organisant l'application de la loi 2001-05 du 11 février 2003 portant COAP.

Décret 2005-848 du 13 décembre 2005 appliquant les articles 2 alinéa 2, 4, 17, 20 et 28 de la loi COAP.

Projet de Loi 025/2008 du 29 Octobre 2008 portant refonte du Code des Aires Protégées: adoptée au Parlement mais en attente de promulgation (la loi 2001-005 reste la référence).

Organisation of the forest administration:

Décret 2010-043 portant modification du Décret 2009-576 fixant les attributions du MEF ainsi que l'organisation générale du ministère.

Texts on logging and export (many on precious woods):

Décret du 25 janvier 1930 réorganisant le régime forestier (Abrogé selon RAMBININTSAOTRA & ANDRIANANTENAINA par le Décret 98-782)

Arrêté du 17 novembre 1930 réglant l'application du décret du 25 janvier 1930 (Abrogé selon RAMBININTSAOTRA & ANDRIANANTENAINA par le Décret 98-782)

Décision n°27 du 07 septembre 1950

Décret 74-078 du 22 février 1974 portant réglementation de l'exportation des produits forestiers.

Décret 87-110 du 31 octobre (ou mars) 1987 fixant les modalités des exploitations forestières, des permis de coupe et des droits d'usage. (Abrogé selon RAMBININTSAOTRA & ANDRIANANTENAINA par le Décret 98-782)

Arrêté n°5139/94 du 15 novembre 1994 complétant la réglementation en vigueur en matière d'exploitation forestière d'une part et règlementant la commercialisation des produits principaux des forêts d'autre part.

Arrêté n°11 832/2000 du 30 octobre 2000 portant interdiction de l'exportation de bois de rose et de bois d'ébène. (sauf sous forme de produits finis) FERMETURE

Arrêté 12 702/2000 du 20 Novembre 2000 portant suspension d'instruction de dossier de demande de délivrance de permis d'exploitation, et de permis de coupe à titre onéreux.

Arrêté n°12 704/2000 du 20 novembre 2000 relatif à l'arrêt de toute activité extractive de ressources ligneuses dans les zones sensibles

Arrêté 13 855/2001 du 13 novembre 2001, sur l'application du décret du 98-782 du 16 septembre 1998, relatif au régime de l'exploitation forestière, portant approbation du cahier de charges de prescriptions générales relatives à l'octroi de permis (par voie d'adjudication). Réglemente l'octroi d'un titre forestier par appel d'offres. Le premier permis d'exploitation qui a suivi a été attribué par appel d'offres en 2006.

Note-Instruction n°109/02/MEF/SG/DGEF/IGEF du 20 novembre 2002

Note-Instruction n°51/03/MINENVEF/Mi du 24 janvier 2003

Note de Rappel n°143/04/MINENVEF/SG/DGEF/DVRF/SVF du 23 février 2004

Note-Instruction n°196/04/MINENVEF/SG/DGEF/DVRF/SFFR du 10 mars 2004

Arrêté interministériel 17 939/2004 du 21 septembre 2004 complétant et modifiant certaines dispositions de l'arrêté 5139/94 du 15 novembre 1994, complétant la réglementation en vigueur en matière d'exploitation forestière, d'une part, et réglementant la commercialisation des produits principaux des forêts d'autre part. (annule des articles de l'Arrêté n°11 832/2000) OUVERTURE

Arrêté interministériel 19 560/2004 du 18 octobre 2004 portant suspension de l'octroi de permis minier et de permis forestier dans les zones réservées comme "sites de conservation".

Note n°1333/04/MINENVEF/Mi du 30 décembre 2004

Note de Service n°175/05 du 22 février 2005 portant suspension d'exportation de bois d'ébène et de bois de rose. FERMETURE (Abrogé par la note 923/05)

Note n°332/05/MINENVEF/SG du 10 mai (ou juin) 2005 portant suspension de la collecte, de la circulation et de l'exportation de bois de rose et de bois d'ébène FERMETURE

Arrêté interministériel 7204/2005 du 20 juin 2005 portant suspension temporaire de l'exploitation, des ramassages des bois morts gisants et de l'exportation de bois de rose et de bois d'ébène.

Note n°915/05/MINENVEF/SG/DGEF/DVRF/SVF du 26 octobre 2005 sur l'agrément pour l'exportation des bois de palissandre et des bois ordinaires semi-travaillés ou travaillés.

Note de Service n°923/05/MINENVEF/Mi du 06 octobre 2005 OUVERTURE

Note de Service n°001/06/MINENVEF/Mi du 15 février 2006

Note ministérielle 428/06/MINENVEF/Mi du 20 juillet 2006. FERMETURE

Arrêté interministériel 16 030/2006 du 14 septembre 2006 relatif aux modalités d'exploitation, de commercialisation des bois d'ébène, de rose et de palissandre FERMETURE

Arrêté interministériel 17 914/2006 du 11 octobre 2006 prorogeant la suspension de l'octroi de permis minier et de permis forestier dans les zones classées en réserves qui sont les "sites de conservation" et les sites de gestion forestière durable3.

Arrêté interministériel 10 885/2007 du 3 juillet 2007 portant suspension d'exportation de bois de forêts naturelles, toutes catégories confondues FERMETURE

Autorisations d'évacuer des produits forestiers délivrée par la DIREEF Antsiranana en octobre 2007. Effet d'OUVERTURE

Note de service 01/08/MEEFT/SG/DGEEF du 10 janvier 2008. FERMETURE

Note ministérielle 02/08/MEEFT/SG/DGEEF/DVRN/SADG du 10 janvier 2008 FERMETURE

Note ministérielle 03/08/MEEFT/SG/DGEEF/DVRN/SADG du 10 janvier 2008 annulant les agréments d'exportation de produits principaux forestiers. FERMETURE

Note de service 086/08/MEEFT/SG/DGEEF/DVRN du 29 janvier 2008.

Note de service interne 005/08/MEEFT/Mi du 29 janvier 2008 sur l'agrément d'exportation. FERMETURE

Arrêté interministériel 18633 du 17 octobre 2008 portant mise en protection temporaire globale des sites visés par l'arrêté interministériel 17914 du 18 octobre 2006 et levant la suspension de l'octroi des permis miniers et forestiers pour certains sites.

Arrêté interministériel 003/2009 du 28 janvier 2009 portant agrément d'exportation, à titre exceptionnel, de bois de rose et d'ébène à l'état brut dans la région de SAVA OUVERTURE (abrogé selon Randriamalala (éteint) et aussi selon RAMBININTSAOTRA & ANDRIANANTENAINA).

Note du 18 février et 17 avril 2009. Abrogation arrêté 003/2009. essai de FERMETURE

Décision du 30 juillet 2009 OUVERTURE

Arrêté interministériel 38 244/2009 du 21 septembre 2009 portant agrément d'exportation à titre exceptionnel des bois précieux à l'état brut ou semi-travaillé OUVERTURE. (abrogé selon Randriamalala (éteint) et aussi selon RAMBININTSAOTRA & ANDRIANANTENAINA).

Arrêté interministériel 38 409/2009 du 5 octobre 2009 complétant l'Arrêté interministériel 38 244/2009 sur l'agrément d'exportation à titre exceptionnel des bois précieux à l'état brut ou semi-travaillé OUVERTURE. (abrogé selon Randriamalala (éteint) et aussi selon RAMBININTSAOTRA & ANDRIANANTENAINA).

Note de rappel 029/09/MEF/SG/DGF/DVRN du 2 octobre 2009 sur la délivrance d'agrément d'exportation à titre exceptionnel des bois précieux à l'état brut ou semi-travaillé OUVERTURE

Note de rappel 030/09/MEF/SG/DGF/DVRN du 2 octobre 2009 OUVERTURE

Note de service du Premier Ministre du 31 décembre 2009 OUVERTURE

Décret 2010-141 du 24 mars 2010 portant interdiction de coupe, d'exploitation et d'exportation de bois de rose et bois d'ébène à Madagascar FERMETURE.

Note de service du Premier Ministre du 11 mai 2010 OUVERTURE

Ordonnance n°2011-001 du 8 août 2011 portant répression des infractions relatives aux bois de rose et aux bois d'ébène.

Arrêté ministériel 0741/2012 du 18 janvier 2012 fixant la classification et la normalisation dimensionnelle, et le taux de redevances relatives à la commercialisation et à l'exportation des produits principaux des forêts. OUVERTURE (Abrogé)

Note de service 002/12/MEF/Mi du 24 janvier 2012. (application de l'arrêté).

Arrêté ministériel 4218/2012 du 15 mars 2012 annulant l'arrêté ministériel 0741/2012 du 18 janvier 2012 fixant la classification et la normalisation dimensionnelle, et le taux de redevances relatives à la commercialisation et à l'exportation des produits principaux des forêts FERMETURE

Texts on firewood and charcoal:

Ordonnance 60-127 du 3 octobre 1960 fixant le régime des défrichements et des feux de végétation.

Décret 82-312 du 19 juillet 1982 réglementant la fabrication du charbon de bois.

Texts on sanctions:

Ordonnance 60-128 du 3 octobre 1960 fixant la procédure applicable à la répression des infractions à la législation forestière, de la chasse, de la pêche et de la protection de la nature (modifiée par l'Ordonnance 83-010 du 5 mars 1983).

Décret 61-078 du 8 février 1961 fixant les modalités d'application de l'Ordonnance 60-128 du 3 octobre 1960 (modifié par le décret 65-047 du 10 février 1965).

Circulaire n°02/MJ/DGAJ-AP/DIRAJ/CO/DIV/2001 du 30 mars 2001 (peines)

Ordonnance n°2011-001 du 8 août 2011 portant répression des infractions relatives aux bois de rose et aux bois d'ébène.

Texts on forest zonation and management delegation:

Arrêté interministériel 18633 du 17 octobre 2008 portant mise en protection temporaire globale des sites visés par l' arrêté interministériel 17914 du 18 octobre 2006 et levant la suspension de l'octroi des permis miniers et forestiers pour certains sites.

Texts on wood grades:

Arrêté du 17 novembre 1930 (abrogé selon RAMBININTSAOTRA & ANDRIANANTENAINA), révisé par l'Arrêté du 29 novembre 1943

Other texts exist on related subjects: forest clearing, bushfires, the environment, forests and mines.

Available proposals of improvements to the forest legislation:

- Proposal of new decree on the delegation of management of the State-owned forests (ELISON, 2009a);
- Proposal of Decree on the permits of harvesting in the State-owned forests (ELISON, 2009b);
- Proposal of an Order fixing the framework of application of forest management and the model of management plan for the State-owned forests dedicated to sustainable production (IRG, 2007c);
- Proposals of amendments of existing laws or their application decrees to update the forest fiscality and proposal of an Order on the minimum rates of the forest tax ("redevance forestière") (LEWIS & RAHAGA, 2008);
- Proposal of a revised system of wood categories (grades) (LEWIS & RAHAGA, 2008; URP Forêts et Biodiversité, 2006);
- Proposal on a new law on the penalties and fines in the forest sector (JariAla, 2009a);
- Proposal of new regulations to re-orient the National Forest Fund (JariAla, 2009b). The same project also envisaged the proposal of a new text to regulate the sale of seized products;
- Series of analyses and proposals to revise the forest legislation (RAMBININTSAOTRA & ANDRIANANTENAINA, 2010 & 2011).

These proposals of revisions, although they were thoroughly discussed, tested in real conditions since 2006 and fine-tuned, have not been adopted until now. The problems of functioning of the State institutions due to the political crisis since 2009 partly explain the interruption of the process. But before that, when these reforms were proposed and implemented in pilot projects, in general they received little interest from the forest administration and even met resistance. At high level there has been no political will to adopt these changes and at the decentralized level these reforms have not been welcomed, as they were introducing transparency in key processes (allocation of permits, collection of taxes, management of the public forest revenues).

Table 2 Succession of the main legal texts regulating the export of wood and their characteristics

Legal text	Short description	Observations
Ordinance 60-128 dated 03 October 1960	Sets the content of procedures applicable to punishable breaches of forestry laws dealing with hunting, fishing and protection of the environment.	
Order 11832/2000 dated 30 April 2000	**bans exportation of rosewood and ebony wood except under the form of semi-finished and Finished products such as art objects or handicrafts** and suspends for duration of three years issuing of licences to operate in the CAP EST region.	
Order 12704/2000 dated 20 November 2000	**Suspends and bans all activities dealing with extraction of wood resources in sensitive areas**, including protected areas and their peripheral zones; its Article 4 mentions that there won't be any specific measure contrary to this order.	However, no delimitation of the peripheral areas have been made
Inter-ministerial Order 17939/2004 dated 21 September 2004	prescribes that all **exported products must be "finished" or "semi-finished"**; annulment and abrogation of contradictory articles contained in Order 11832/2000 dated 30 April 2000 on the banning of rosewood and ebony exports	Contradicts Order 11832/2000
Memorandum 923/05 dated 06 October 2005	**authorises the export of existing stocks of ebony and rosewood "following the grievances expressed by operators** and exporters of Antalaha, Mahajanga and Taolagnaro".	Contradicts preceding memoranda
Memorandum 001/06 dated 15 February 2006	declares all ebony and palissander stocks illegal other than those designated in the annex of Memorandum 923/05	Legalisation of a specific operator's products
Inter-ministerial Order 16030/2006	**bans all extraction of rosewood and ebony** and the **export of ebony and rosewood; allows export of rosewood and ebony as finished products; a**ll unidentified stocks will be seized	Restitution of banning of export of unfinished precious woods
Inter-ministerial Order 10885/2007 dated 03 July 2007	bans exportation of wood extracted from all categories of natural forests, **whether it be raw or semi-finished**; only finished products are authorised for export	Confirms Orders 11832/2000 and 16030/2006
Ministerial Note 03/08 dated 10 January 2008	**annuls all existing export agreements and suspends all export** until publication of new regulatory measures concerning the principle forest products	
Inter-ministerial Order 003/2009	**grants exceptional rights to export raw rosewood, ebony and palissander** in the SAVA Region for 13 **listed operators; total clearance until 30 April 2009**, **deadline after which there will not be any more exception issued**	Contradicts orders 11832/2000 and 16030/2006
Inter-ministerial Order 38244 dated 21 September 2009	**grants exceptional and nominative rights to export ebony, rosewood and palissander** in accordance with previously established inventory for operators who have complied with forestry taxation and administrative requirements**; maximum quota of 25 containers allotted to each of the "following" operators, in order to pacify the economic situation**	Contradicts Orders 11832/2000 and 16030/2006; does not abide by the previsions of Inter-ministerial Order 003/2009; absence of inventory
Inter-ministerial Order 38409/2009 dated 5 October 2009; Notes to operators 029 and 030/09/MEF/SG/DGF/DV RN dated 02 October 2009	**completes the Inter-ministerial Order 38244/2009 on exceptional export agreement of raw and semi-finished precious woods; Application notes on the issuing of export agreements and permits of forest products**	Article 6 of the Order pronounces all products waiting for approval to be designated as fraudulent exportation

Source: Global Witness & EIA (2009)

Annex 5 - Miscellaneous technical annexes

Information on wood grades (see § 2.1):

The Order of 17 November 1930, revised by the Order of 29 November 1943, classifies the Malagasy timber species in 5 grades ("categories"). Certain regulations make distinctions based on these categories. These grades are as follows:

1st category: Special woods: 3 species, actually of limited importance.

2nd category: Woods of high value, for cabinet-making or fine carpentry: a dozen species or groups of species including rosewood, ebony, palissandre, Hintsy (*Intsia bujuga*) and a few other valuable species.

3rd category: Woods for frames, boat building, carpentry, railway sleepers, the making of carts: more than 100 species. This large class is heterogeneous and contains ordinary woods as well as some fine wood suitable for cabinet-making. Pine species and most Eucalyptus species are in this category.

4th category: Woods to make crates and low value objects: about 60 species.

5th category: Fuelwoods: other Malagasy species and other exotic species.

Additional information on forest resources (see § 2.1):

Table 3 Miscellaneous characteristics of Malagasy forest resources

Situation in 2005 (adapted from GISC, 2009)

Type of forest or woodland	Annual deforestation rate (2000-2005)	Mean Annual Increment (estimate) (m^3/ha/year)	Theoretical annual allowable cut: timber (m^3 RWE)	Theoretical annual allowable cut: firewood & charcoal (m^3 RWE)	Ownership
Rainforest	0.4 %	5.9	3,450,000	6,565,000	public or private
Dense dry forest	0.4 %	1.0	308,000	1,294,000	public or private
Spiny woodland	1.2 %	0.8	14,000	700,000	public
Mangrove	<0.1 %	5	0	308,000	public
Total plantations	unsurveyed		2,114,000	3,008,000	
Pine plantations	-	15	2,114,000	0	public
Eucalyptus plantations	-	20	0	3,008,000	private
Total forest resources			**5,887,000**	**11,875,000**	
+Outside closed forest/woodland				+ 7,890,000	

Notes: Theoretical annual allowable cut is not an established official concept; it is synonymous of potential sustainable production; these figures concern natural forests which are not established or planned protected areas (=outside SAPM). In this table eucalyptus plantations are assumed to be exclusively used for fuelwood, which is the reality observed, while in theory they could also be planned for some timber production. Conversely, pine plantations are assumed to be exclusively used for timber, while in reality some charcoal is being produced out of pine.

Additional information on the evaluation of management transfers (see § 4.1.2.(I)(c)):

The two systems, GELOSE and GCF, are used today as both have their supporters. A contract is signed between these partners which allocates the management of the resources to the CoBa for a fixed number of years, 3 years for the initial contract, and defines the conditions of this management. The official documents of such a contract are the simple management plan, the conditions / specifications of contract (cahier des charges) and a local collective convention called “dina” (operating modalities and internal regulations agreed among local stakeholders). In most cases, an additional institution plays an important role in the establishment of the management transfer, the "promoter", usually a development NGO or another technical and financial partner. Indeed, the process of establishment of a management transfer is a community forest management project and as such it usually follows preparatory phases conducted by the promoter: information of the local community and receipt of its expression of interest, enquiries on this community and organization into formal structures, technical and organizational training, participatory preparation of the documents of the contract and official signature of the contract. For the 3 years of implementation of the first contract (application of the dina, etc.), the process should be monitored and at the end evaluated to proceed to the renewal of the contract for a new period, this time of 10 years (again renewable for 10 years etc.).

Although all national stakeholders concerned about forest management agree that management transfers are a necessary system and a good system, some weaknesses and shortcomings are obvious.

The main one is that in many cases, the promoters have concentrated on the official transfer itself and then, once the contract had been signed, they left the area and have neglected technical support during the implementation phase. In some cases, the preparation phase was even rushed, as some promoters were competing in a race to reach planning indicators and targets (RAMAMONJISOA, 2011). The "transfer" has been too often considered as the final objective, while it is in fact still the beginning of the real management process. Indeed, community forest management is a long and in-depth process to put in motion.

As a consequence, too many management transfers which exist on paper are actually devoid of substance on the ground, management transfers are too often used to launder timber illegally logged, and recently a lot of contracts have not been renewed for lack of sustained interest or lack of proven seriousness.

These shortcomings are all the more a pity as they generate opponents to the concept. Yet, management transfers are a most appropriate process and one of the potentially effective solutions to forest loss and degradation, as demonstrated by the sites where there has been serious follow up.

Another debate exists among promoters about the management objectives of the management transfers. A majority of these sites are located at the edge of protected areas, and many protected areas are even surrounded by a belt of management transfer sites, which is also a sound objective. For these reasons, two types of management transfers have been promoted, the ones for conservation and the ones for production (for the latter, in reference to the legislation, the French word "valorisation" is used rather than "exploitation (commerciale)"). In other words, in terms of harvesting, in many sites the objective is limited to the extraction of wood for local non-commercial use (which corresponds to the concept of "droits d'usage" in French). In a few sites, the ultimate objective is logging for commercial purposes.

Recently, given the anarchy that had developed in some management transfers involved in commercial logging, the ministry suspended all authorizations for logging until the completion of a case by case evaluation.

Even if these problems exist and the current situation is rather blocked regarding commercial logging, and even if the organization of community sustainable commercial logging is a long process that needs to be implemented in phases, it is likely that management transfers limited to objectives of extraction for local use will provide insufficient incentives and are doomed. On the other hand, some argue even that commercial logging in management transfers should not exclude the possibility to export the timber produced, given that currently the sale on local markets is not profitable enough to remunerate management operations due to the competition of cheap illegal wood from unmanaged sources.

Possible mechanisms of limited outcomes of court cases (see § 4.8):

The mechanisms for the limited outcomes of the court cases concerning illegal logging are the following:

- there are cases when no judgement ever takes place, for whatever (unexplained) reasons;
- there are many cases where certified reports ("procès-verbaux") were written but (actually or allegedly) presented irregularities ("vice de forme"), or where the procedures followed presented irregularities;
- in many cases, the result of the trial is that the convict is not condemned ("non-lieu");
- as the forest regulations contain contradictions, their application is highly subject to interpretation. In particular, different regulations can be used as reference for forest crimes, the forest legislation (Ordinance 60-128), the protected area code (COAP, according to which timber cutting in a protected area is a crime) or the penal Code, and most of the time the one inducing the smallest penalty will be used. (ONI, 2012).

Annex 6 - Procedures for wood exports

In terms of documents to provide, there are currently two slightly different procedures for commercial export of timber:

First case: requirements for finished products made of Palissandre or ordinary woods from natural forests:

(a) the exporter needs to obtain accreditation for export ("agrément"): see below the requirements;

(b) the invoice of the sale in FOB value with banking information ("domiciliation bancaire");

(c) a certified inspection report of examination of the products ("procès-verbal de constatation");

(d) a form a clearance of stocks inventoried ("fiche d'apurement des stocks");

(e) the receipt after payment of the export tax ("redevance à l'exportation"): 1.5% of FOB price.

The requirements of the file to obtain the accreditation as an exporter are:

- letter of request to the Minister;
- supply contract between the exporter and the supplier of the products to transform;
- card of payment of the professional tax of exporter;
- number of fiscal identification ("Numéro d'Identification Fiscale, NIF");
- certificate of opening of a bank account;
- certified inspection report of examination of the wood processing plant by an officer of the forest administration and certified by the forest administration ("procès-verbal de constatation");
- forecast of exports for the period requested with description of the products to export.

Second case: requirements for semi-processed products (or finished products) made of woods from plantations (pine, eucalyptus):

- (NB:) the accreditation is not necessary
- (b), (c), (d) and (e) above, the export tax is 1.5% of FOB value for the finished products and 4% for semi-processed products.

Annex 7 – Additional information on timber flows to, from and within Madagascar

Metadata

The Madagascar wood flow study presented in chapter 8 has basically used 4 sources of statistics:

- UN Comtrade: the same conventions have been applied as for the other countries of the study;
- Data of the Malagasy Customs: collected by means of the ASYCUDA system. Computerized data have been obtained for the period 2008-2011 (4 years). They are in real weight (amounts) and Malagasy Ariary (values) and for comparison purposes have been converted into RWE volume and US$. The Customs supply these data to INSTAT (which has the exclusivity of official statistics) which in turn supplies the data to UN Comtrade;
- Data of the forest administration, at central level and some at regional level. It should be mentioned that the forest administration does not have data on the imports of wood products;
- Some data from importing countries on imports from Madagascar. These are EU-27 (2000-2011), France (2000-2011), China (2005-2011) and a look at Mauritius imports and exports.

As much as possible, these 4 sources have been compared to detect anomalies in the data (the ratio between volumes traded and the declared value of these products has also been checked with the same objective). However, there are regular discrepancies between these sources and in that case, there is usually no particular trend (no constant underestimation by one source for example), so that few meaningful deductions can be made from these comparisons and cross-checks, apart from confirming the scale of the flows.

When studying geographical trade flows of Madagascar, in order to avoid some confusion one should be careful to distinguish Metropolitan France from La Réunion and Mayotte, which are significant export destinations. As regards conversion factors between real product weight or volume and RWE volume, the same factors have been applied as for other study countries. Nevertheless, it should be kept in mind that in Madagascar, actual processing yields at the logging stage and wood processing stage are extremely low. Therefore, RWE volume figures presented are likely to underestimate the roundwood volumes used. When using national customs data, which are in weight, the conversion of some products to RWE volume for comparison and addition purposes with other products has been tricky, as precious woods, which are very important to study, have a really different density (>1.1) from all other woods.

Imports and exports by type of product: prices

The average declared price of imported Timber sector products has been around 310 US$/$m^3$ RWE (CIF, nominal) over the decade. Among these, furniture has been imported at about 520 US$/$m^3$, and logs at about 70 US$/$m^3$ (which suggests that in spite of the fact that they are recorded as hardwood, they may not belong to that category in reality).

At the same time, the average declared price of exported Timber sector products has been around 180 US$/$m^3$ RWE (FOB, nominal). Among these, sawn wood has been exported at about 150 US$/$m^3$, and logs at about 500 US$/$m^3$. The price of exports has been higher towards the end of the decade, due to more exports of precious woods. This average price of exported timber (especially for logs and sawn wood) is actually heterogeneous because made of large amounts of cheap softwood and comparatively small amounts of highly expensive precious wood.

Exports of timber products by country of destination: discussion on cross-checking

For logs and sawn wood (main timber products exported), cross-checks have been made to compare exports declared by Madagascar (UN Comtrade database) to the imports from Madagascar declared by the main countries of destination, which is an indication of the level of accuracy of the data that may be expected. These comparisons have been made for several product categories or their combinations, such as sawn wood, sawn softwood, logs of hardwood, etc. It is observed that the series of paired data (Madagascar - destination country) for the decade never correspond exactly, and the differences rarely follow a rule, such as a systematic over- or underestimation by one of the parties. Most of the time, these differences in one direction or the other remain difficult to explain. In some cases a likely explanation can be proposed. In spite of these differences, general trends over the decade are the same (smoothing the data between years improves the correspondence), and the general scale of the exports is usually the same. **Table 6** in ***Annex 8*** is an illustration. Data quality and difference in product classification might explain the substantial difference in quantities of sawn coniferous and non-coniferous wood traded from Madagascar to Mauritius. Madagascar always declares more exports of coniferous sawn wood than Mauritius indicates it imports, and vice versa regarding hardwoods. The sudden declaration of minor import amounts by EU-27 and "France" from 2005 onwards could be explained by a new system recording La Réunion and Mayotte separately. On the whole, the information coming from the UN Comtrade database on the main destinations and types of products was not contradicted during interviews with informed sources during the field mission.

Imports and exports of wood products by port: respective importance of imports versus exports

The proportion of timber imported within the whole timber traffic of a certain harbour usually depends on two combined factors: the isolation of the town and surrounding region and its size (a large isolated town, not connected to the rest of the country and the capital by a good road, would import more). As already suggested, Antalaha and Sambava exclusively export (specialized rosewood harbour), Vohemar (specialized rosewood harbour) and Mahajanga almost exclusively export. In Tulear and Toamasina imports represent about 15% of the whole timber traffic, in Fort-Dauphin about 50%, in Diego-Suarez 75% and in Nosy Be 100%.

Routes of timber supplying the capital (in-country trade flows)

The supply of timber products (sawn wood and roundwood mainly for construction and furniture making) to Antananarivo has recently been studied by the ACP-FLEGT Support Programme (UE/FAO/ Fondation Tany Meva): "Support to the forest administration in the control and the monitoring of the provenance of forest products on the market of Antananarivo capital" (RABEMANANJARA, 2012). A set of draft maps is available which presents the preliminary results. These maps indicate the percentage of the main timber species that reach the capital along each of the national roads and identify the main areas of origin of the wood. At this stage the total amounts of the flows for each species are not available. Pine timber represents the largest part of the supply. Eucalyptus timber comes next. Timber from natural forests is rarely found. Palissandre and Varongy (*Ocotea sp*) are valued but are very rarely found. The survey allows to understand the relative importance of the various regions of origin of the wood, species by species, for future further investigation on how the harvest takes place in these regions.

Annex 8 - Charts and tables on timber flows

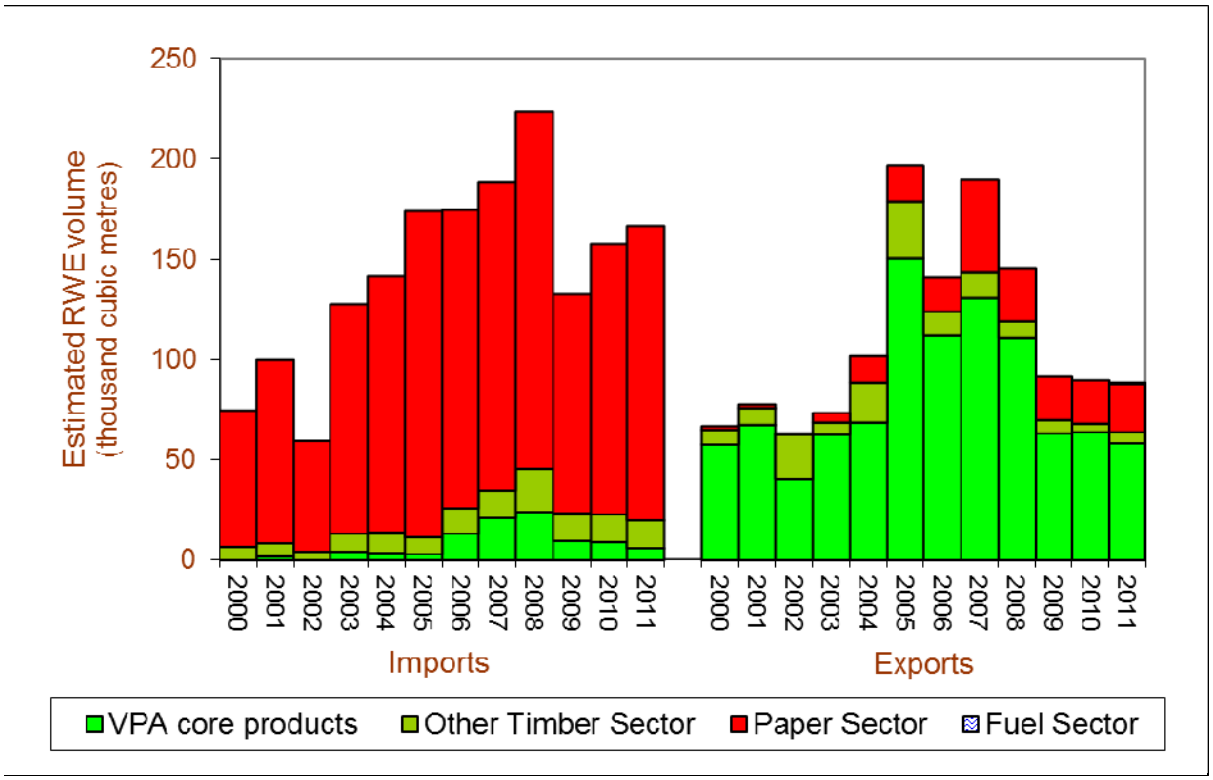


Figure 4 Madagascar's trade in wood-based products (RWE volume)

Source : based on UN Comtrade, 2012

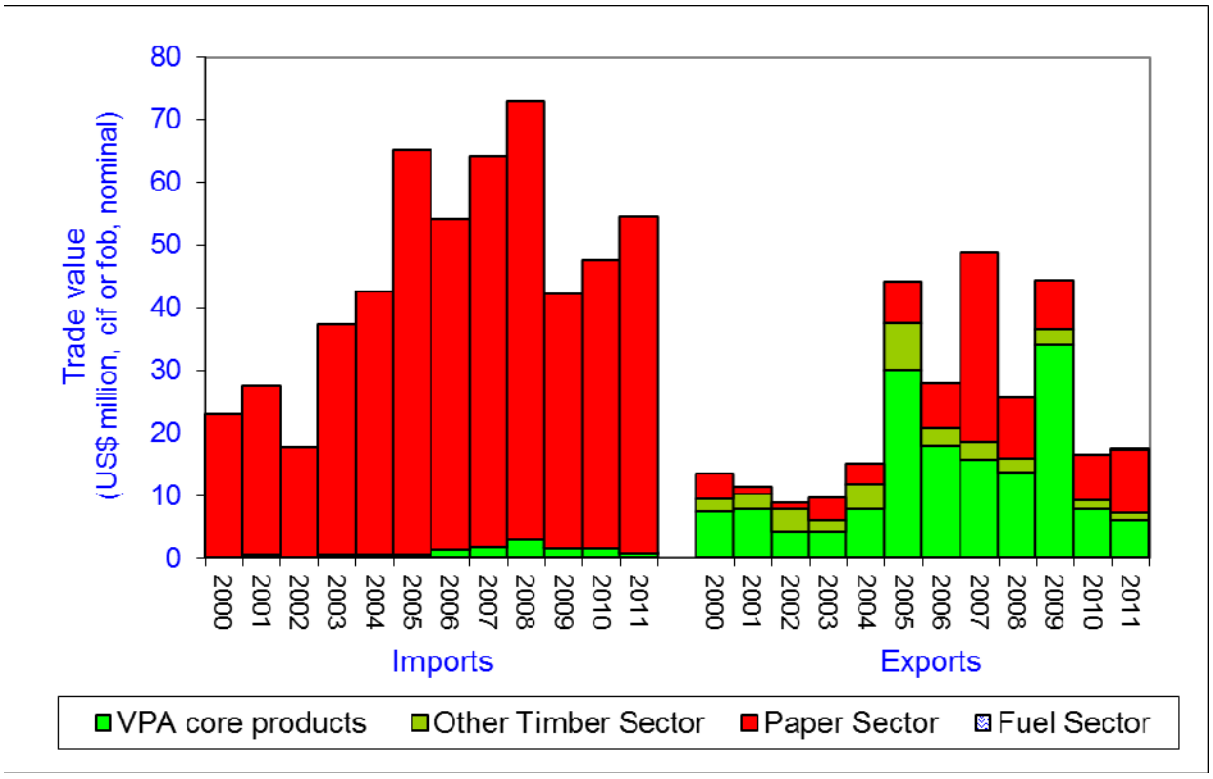


Figure 5 Madagascar's trade in wood-based products (trade value)

Source : based on UN Comtrade, 2012

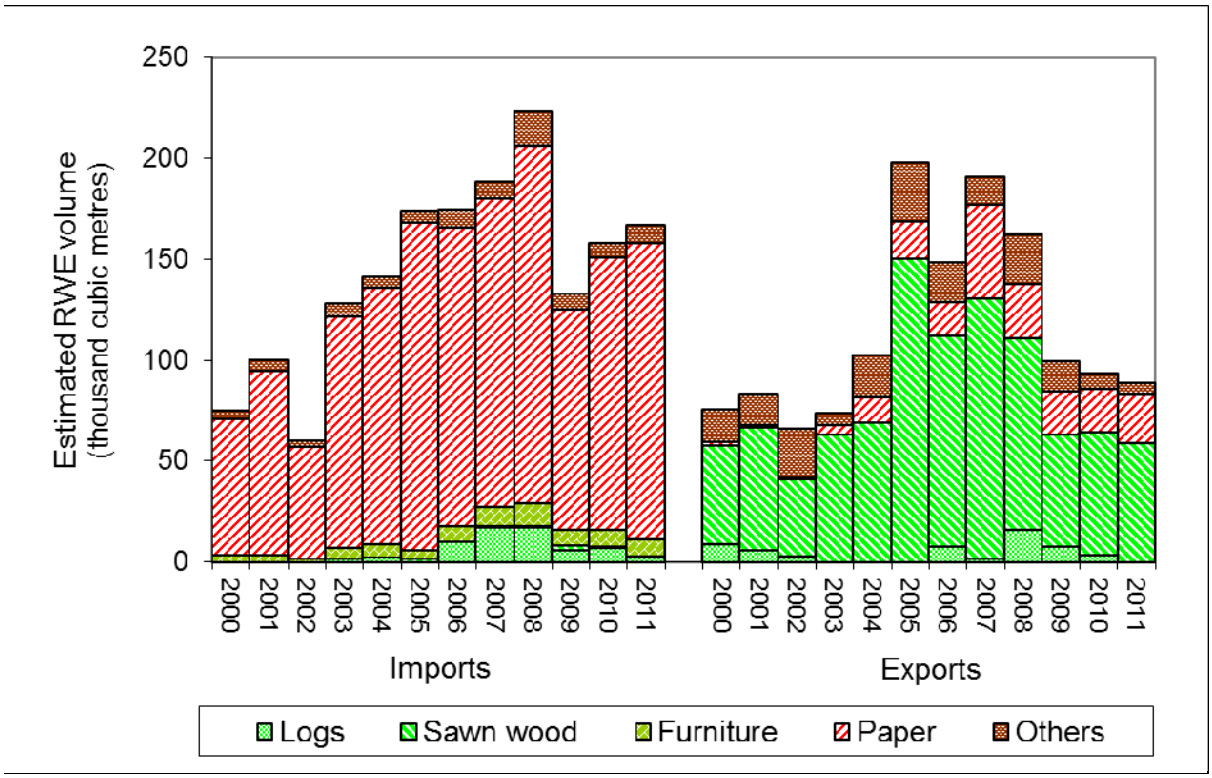


Figure 6 Madagascar's trade in the main wood-based products, by products

Source : based on UN Comtrade, 2012

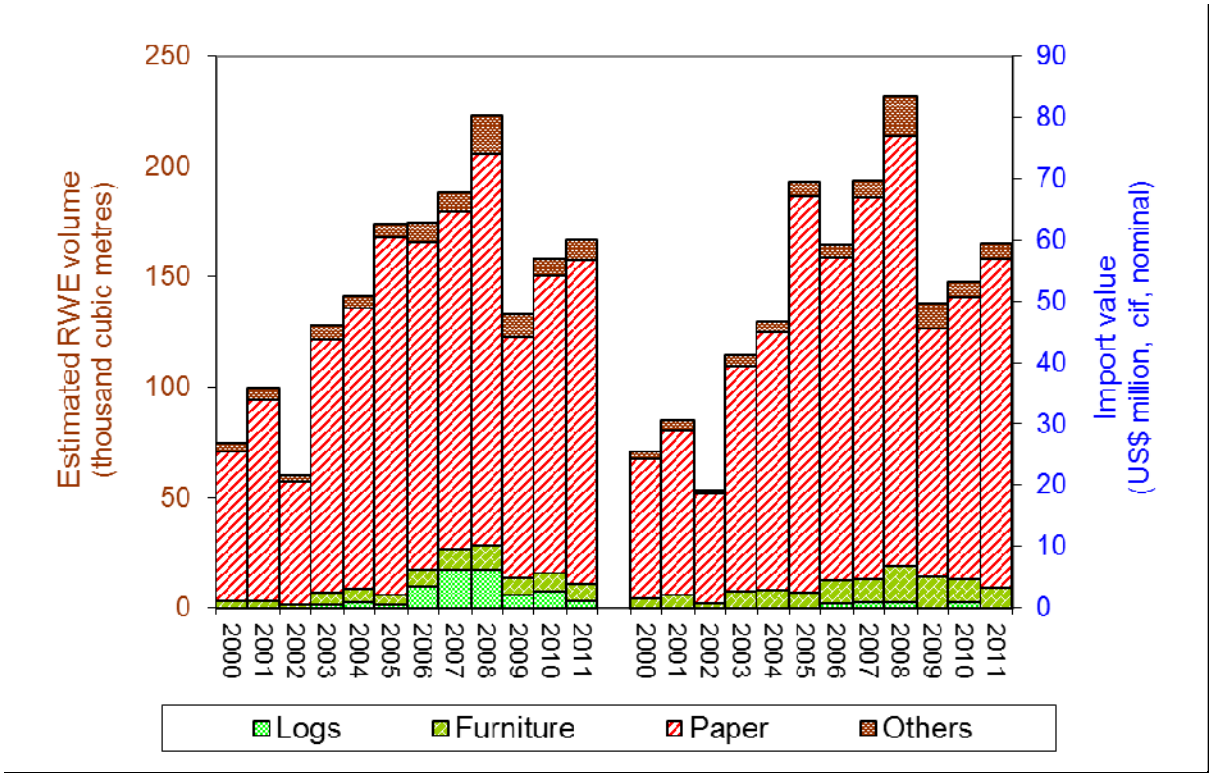


Figure 7 Madagascar's imports of wood-based products, by supplying country (RWE volume).

Source : based on UN Comtrade, 2012

Note: "Rest of Africa" is mostly Mauritius. "Study countries" is mostly South Africa.

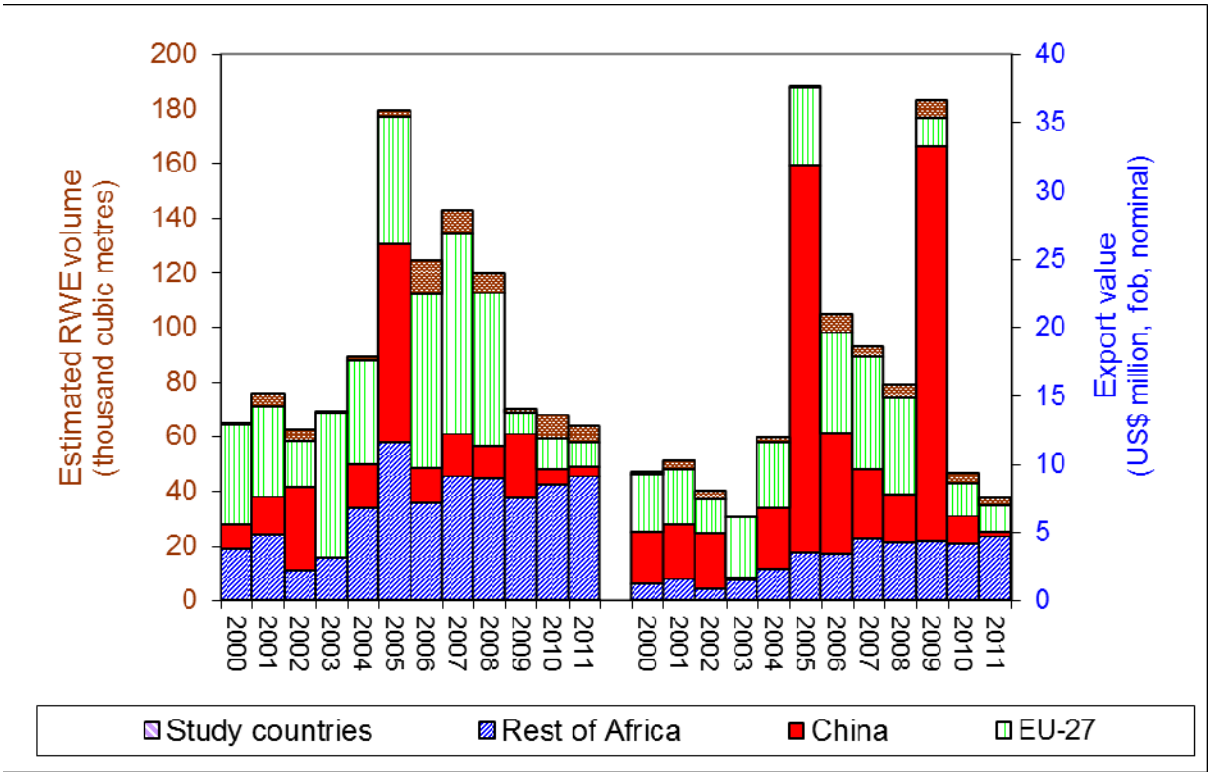


Figure 8 Madagascar's exports of Timber sector products, by destination (RWE volume).

Source : based on UN Comtrade, 2012

Note: "Rest of Africa" is mostly Mauritius, Mayotte and Comoros.

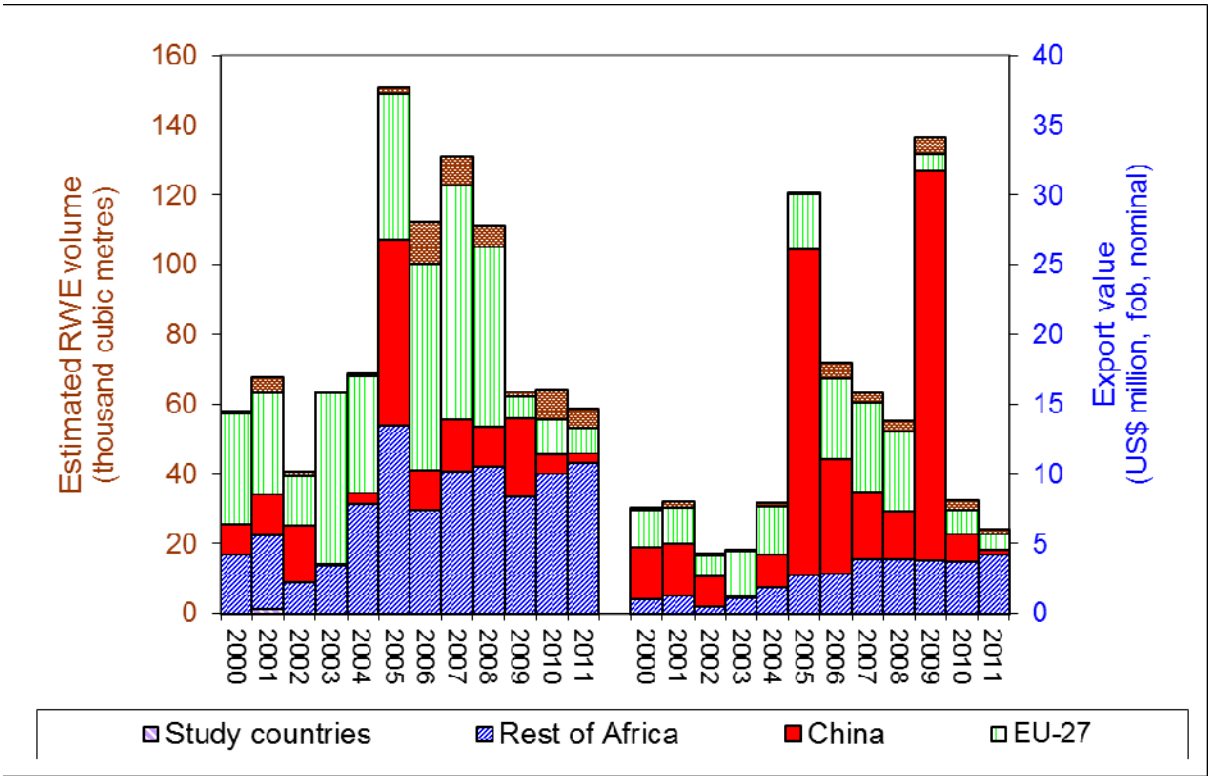


Figure 9 Madagascar's exports of VPA core products, by destination (RWE volume)

Source : based on UN Comtrade, 2012

Note: "Rest of Africa" is mostly Mauritius, Mayotte and Comoros.

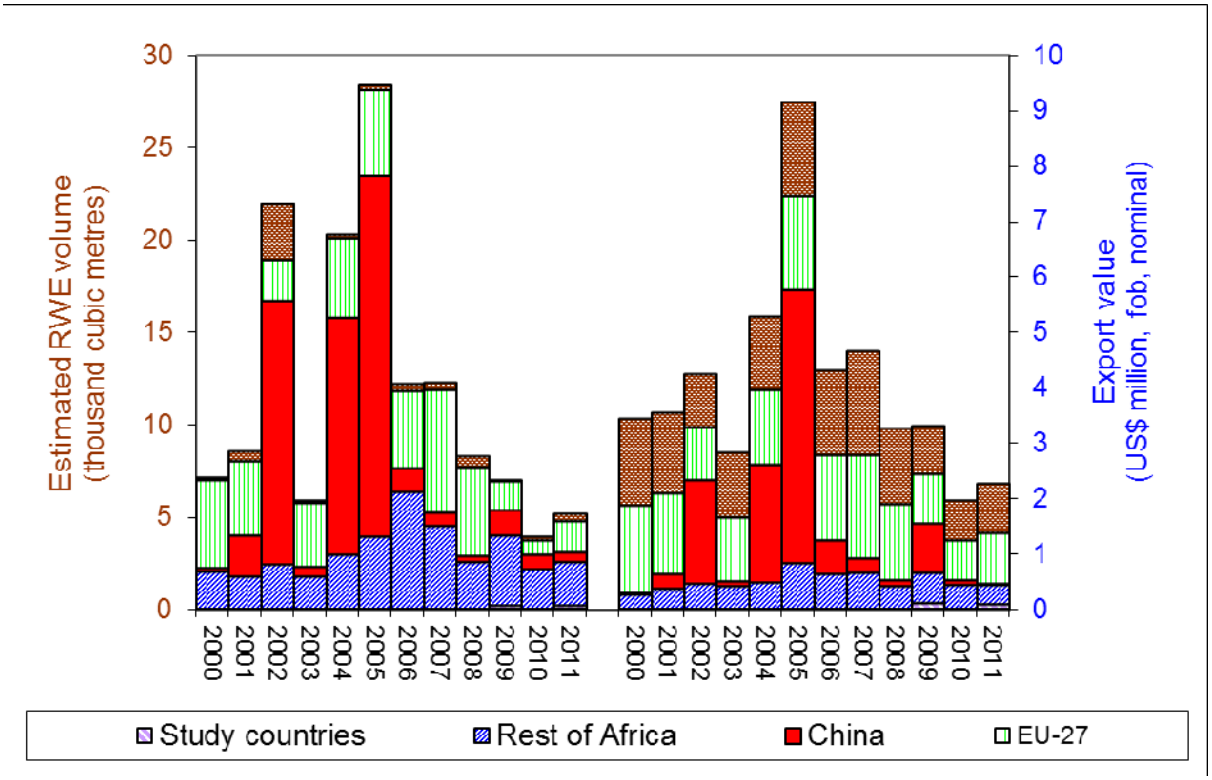


Figure 10 Madagascar's exports of other timber sector products, by destination (RWE volume)

Source : based on UN Comtrade, 2012

Note: "Rest of Africa" is mostly Mauritius, Mayotte and Comoros.

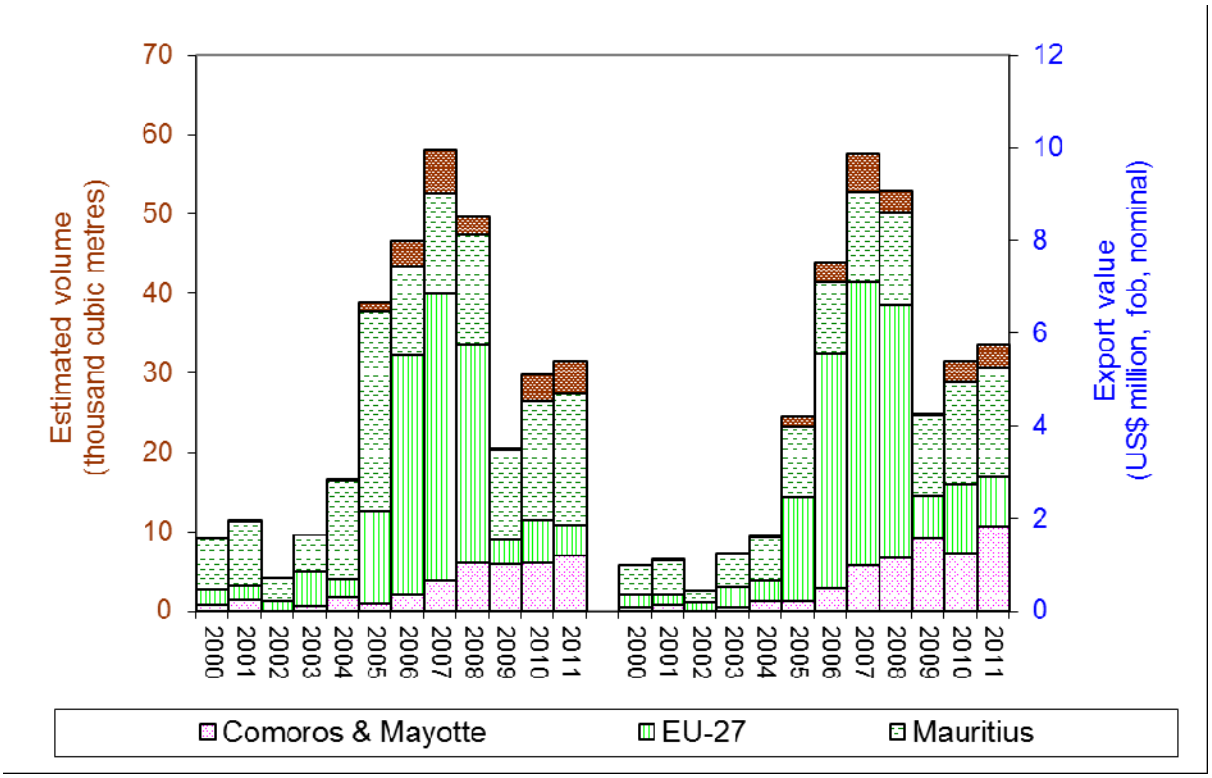


Figure 11 Madagascar's exports of sawn wood of coniferous species, by destination (estimated real volume)

Source : based on UN Comtrade, 2012

Note: "EU-27" is mostly La Réunion.

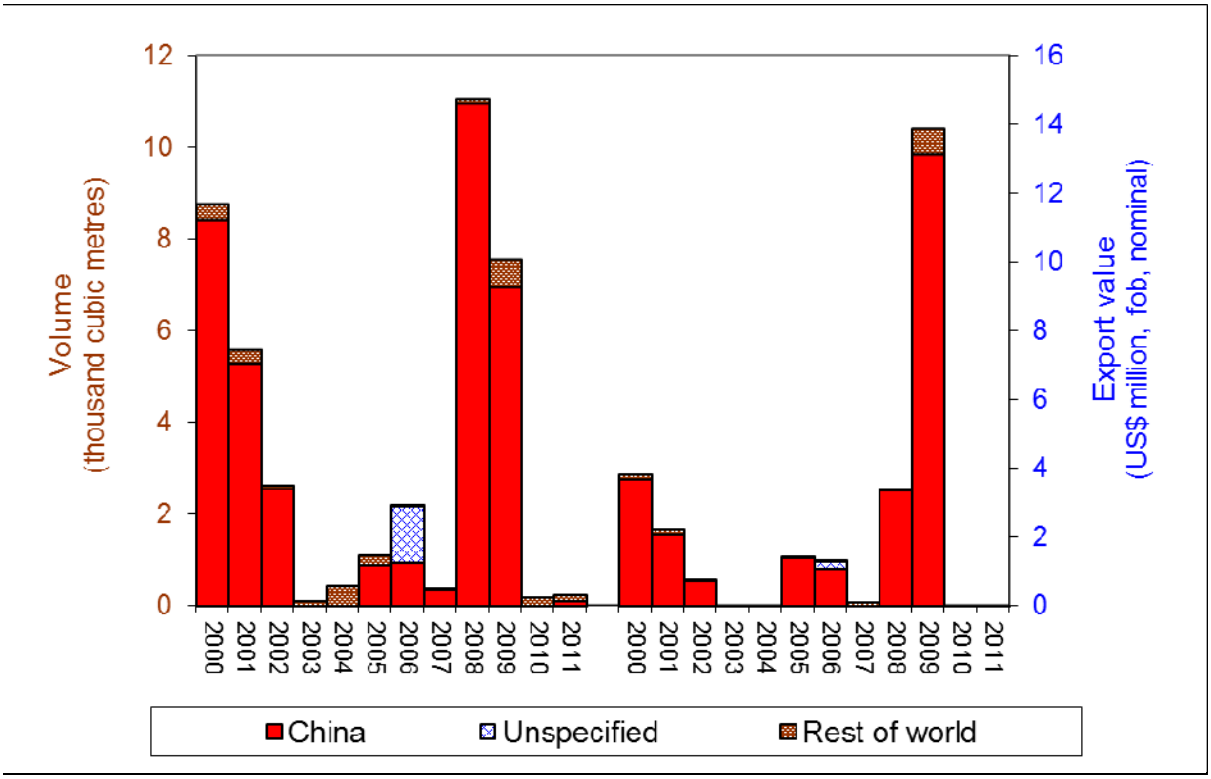


Figure 12 Madagascar's exports of logs of non-coniferous species by destination (volume)

Source : based on UN Comtrade, 2012

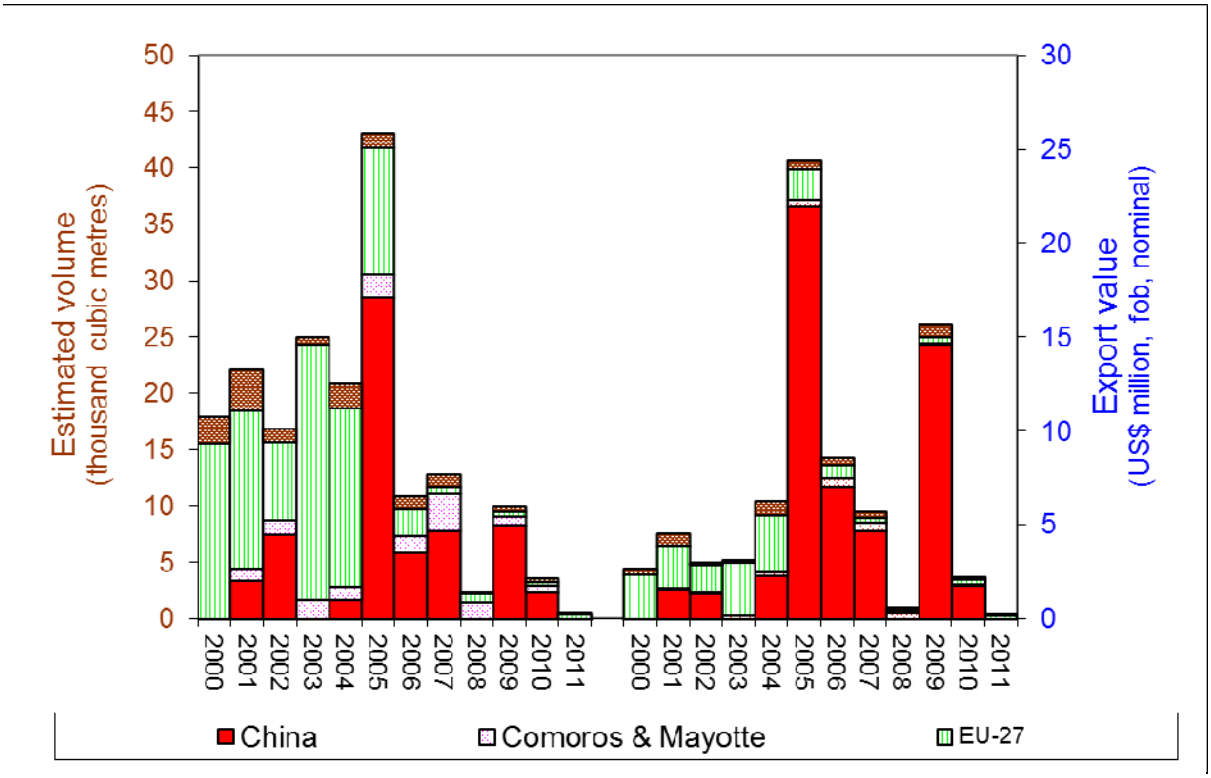


Figure 13 Madagascar's exports of sawn wood of non-coniferous species, by destination (estimated real volume)

Source : based on UN Comtrade, 2012

Table 4 Details of Imports of Madagascar by product groups

Product group	Estimated roundwood equivalent volume (thousand cubic metres)												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
	Imports from all countries												Imports from all countries											
Total	**75**	**100**	**60**	**128**	**142**	**174**	**175**	**188**	**223**	**133**	**158**	**167**	**25**	**31**	**19**	**41**	**47**	**70**	**59**	**70**	**84**	**50**	**53**	**60**
VPA core products	*2*	*2*	*1*	*5*	*4*	*4*	*14*	*22*	*24*	*10*	*10*	*6*	*0*	*1*	*0*	*1*	*1*	*1*	*1*	*2*	*3*	*2*	*2*	*1*
Timber sector:	**7**	**9**	**4**	**13**	**14**	**12**	**26**	**36**	**46**	**24**	**24**	**20**	**3**	**4**	**1**	**4**	**5**	**5**	**7**	**7**	**14**	**9**	**7**	**6**
Logs	0	0	0	1	2	1	10	17	17	6	7	3	0	0	0	0	0	0	1	1	1	0	1	0
Sawn wood	0	0	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0
Veneer	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plywood	1	2	1	3	1	2	3	3	6	2	2	3	0	0	0	0	0	0	0	1	2	0	0	1
Other panels	1	1	1	1	1	1	2	2	3	1	2	3	0	0	0	0	0	0	1	1	1	0	1	1
Mouldings & joinery	1	1	1	1	2	3	2	2	6	3	2	3	0	0	0	1	1	1	1	1	3	1	1	1
Furniture	3	3	2	6	6	4	8	9	11	8	9	8	2	2	1	3	3	2	4	4	6	5	4	3
Other wood	0	1	0	1	1	0	1	1	2	1	1	1	0	0	0	0	0	0	0	0	1	1	1	0
Paper sector:	**68**	**91**	**56**	**115**	**127**	**162**	**148**	**153**	**177**	**109**	**135**	**147**	**23**	**27**	**18**	**37**	**42**	**65**	**53**	**62**	**70**	**41**	**46**	**54**
Chips & residues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood-based pulp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper	68	91	56	115	127	162	148	153	177	109	135	147	23	27	18	37	42	65	53	62	70	41	46	54
Fuel sector:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Fire wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charcoal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Imports from all EU-27 member states												Imports from all EU-27 member states											
Total	**23**	**29**	**14**	**35**	**21**	**22**	**23**	**15**	**15**	**12**	**14**	**14**	**9**	**11**	**6**	**14**	**10**	**10**	**12**	**11**	**12**	**10**	**9**	**11**
VPA core products	*0*	*0*	*0*	*1*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Timber sector:	**1**	**2**	**1**	**3**	**2**	**3**	**2**	**2**	**2**	**2**	**2**	**1**	**1**	**2**	**1**	**2**	**1**	**2**	**2**	**1**	**3**	**2**	**1**	**1**
Logs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sawn wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Veneer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plywood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other panels	0	1	0	0	0	1	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
Mouldings & joinery	0	0	1	1	1	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	1	0	0	0
Furniture	0	1	0	1	1	1	1	0	0	1	0	0	1	1	0	1	0	1	1	0	1	1	0	1
Other wood	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper sector:	**21**	**27**	**13**	**32**	**19**	**19**	**21**	**13**	**13**	**10**	**12**	**13**	**8**	**9**	**5**	**12**	**9**	**9**	**11**	**9**	**9**	**8**	**8**	**10**
Chips & residues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood-based pulp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper	21	27	13	32	19	19	21	13	13	10	12	13	8	9	5	12	9	9	11	9	9	8	8	10
Fuel sector:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Fire wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charcoal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data derived from UN Comtrade, 2012

Table 5 Details of Exports of Madagascar by product groups

Product group	Estimated roundwood equivalent volume (thousand cubic metres)												Export value (US$ million, fob, 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
	Exports to all countries												Exports to all countries											
Total	**67**	**78**	**63**	**74**	**102**	**197**	**141**	**190**	**146**	**92**	**90**	**88**	**14**	**12**	**9**	**10**	**15**	**44**	**28**	**49**	**26**	**44**	**16**	**17**
VPA core products	*58*	*68*	*41*	*63*	*69*	*151*	*112*	*131*	*111*	*63*	*64*	*59*	*8*	*8*	*4*	*4*	*8*	*30*	*18*	*16*	*14*	*34*	*8*	*6*
Timber sector:	**65**	**76**	**63**	**69**	**89**	**179**	**124**	**143**	**119**	**70**	**68**	**64**	**9**	**10**	**8**	**6**	**12**	**38**	**21**	**19**	**16**	**37**	**9**	**7**
Logs	9	6	3	0	0	1	8	2	16	8	3	1	4	2	1	0	0	1	2	0	4	14	0	0
Sawn wood	49	61	38	63	68	149	105	129	95	56	61	58	4	6	3	4	8	29	16	16	10	20	8	6
Veneer	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plywood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other panels	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mouldings & joinery	3	1	9	2	15	2	5	4	2	3	1	1	0	0	1	0	2	0	1	1	0	1	0	0
Furniture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other wood	4	7	13	4	5	26	7	8	6	4	3	4	1	2	2	1	1	7	2	2	2	1	1	1
Paper sector:	**2**	**2**	**1**	**5**	**13**	**18**	**17**	**46**	**27**	**21**	**22**	**24**	**4**	**1**	**1**	**4**	**3**	**6**	**7**	**30**	**10**	**8**	**7**	**10**
Chips & residues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood-based pulp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper	2	2	1	5	13	18	17	46	27	21	22	24	4	1	1	4	3	6	7	30	10	8	7	10
Fuel sector:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Fire wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charcoal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Exports to all 27 EU member states												Exports to all 27 EU member states											
Total	**38**	**34**	**17**	**54**	**50**	**63**	**69**	**97**	**63**	**11**	**14**	**13**	**7**	**5**	**3**	**6**	**8**	**11**	**11**	**28**	**11**	**4**	**4**	**5**
VPA core products	*32*	*29*	*14*	*49*	*34*	*42*	*59*	*67*	*51*	*6*	*10*	*7*	*3*	*3*	*2*	*3*	*4*	*4*	*6*	*6*	*6*	*1*	*2*	*1*
Timber sector:	**37**	**33**	**17**	**53**	**38**	**47**	**63**	**74**	**56**	**8**	**11**	**9**	**4**	**4**	**2**	**4**	**5**	**6**	**7**	**8**	**7**	**2**	**2**	**2**
Logs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sawn wood	32	29	14	49	33	42	59	67	51	6	10	7	3	2	2	3	3	4	6	6	6	1	2	1
Veneer	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Plywood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other panels	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mouldings & joinery	2	1	0	1	1	1	1	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Furniture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other wood	3	3	2	3	3	3	3	5	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Paper sector:	**1**	**1**	**0**	**2**	**12**	**16**	**6**	**24**	**6**	**3**	**3**	**4**	**3**	**1**	**0**	**1**	**3**	**6**	**3**	**19**	**4**	**1**	**2**	**3**
Chips & residues	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Wood-based pulp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Paper	1	1	0	2	12	16	6	24	6	3	3	4	3	1	0	1	3	6	3	19	4	1	2	3
Fuel sector:	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Fire wood	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Charcoal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Data derived from UN Comtrade, 2012

Table 6 Exports of sawn wood of Madagascar by destinations.

Destination	*Estimated* volume (thousand cubic metres)												Export value (US$ million, fob, 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
Total	**27**	**33**	**21**	**35**	**38**	**82**	**58**	**71**	**52**	**31**	**33**	**32**	**4**	**6**	**3**	**4**	**8**	**29**	**16**	**16**	**10**	**20**	**8**	**6**
Study countries	**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 Africa:	**9**	**12**	**5**	**7**	**17**	**30**	**16**	**22**	**23**	**18**	**22**	**24**	**1**	**1**	**0**	**1**	**2**	**3**	**3**	**4**	**4**	**4**	**4**	**4**
Comoros & Mayotte	1	2	2	2	3	3	4	7	7	7	7	7	0	0	0	0	0	1	1	1	1	2	1	2
Mauritius	8	9	3	5	14	26	12	13	14	12	15	17	1	1	0	1	1	2	2	2	2	2	2	2
Others	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
China	**0**	**3**	**8**	**0**	**2**	**29**	**6**	**8**	**0**	**8**	**3**	**1**	**0**	**2**	**1**	**0**	**2**	**22**	**7**	**5**	**0**	**15**	**2**	**0**
EU-27:	**17**	**16**	**8**	**27**	**18**	**23**	**32**	**37**	**28**	**3**	**6**	**4**	**3**	**2**	**2**	**3**	**3**	**4**	**6**	**6**	**6**	**1**	**2**	**1**
France	15	13	5	25	17	19	30	36	28	3	5	4	2	2	1	3	3	3	5	6	6	1	2	1
Germany	0	0	0	1	2	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spain	2	3	2	2	0	3	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	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**	**2**	**1**	**0**	**0**	**1**	**3**	**4**	**1**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**
India	0	0	0	0	0	1	0	1	0	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0
Kuwait	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Others	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Volume (thousand cubic metres)												Import value (US$ million, cif, nominal)											
Counterpart data:	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Imports by China	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0	1	1	1	1	0
Imports by EU-27	25	25	12	21	17	3	0	0	0	0	4	0	4	4	3	3	3	3	3	3	3	1	1	1
Imports by France	19	18	8	14	11	2	0	0	0	0	4	0	3	2	1	2	2	1	2	2	2	1	1	1
Imports by Spain	6	6	3	7	5	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	0	0	0
Imports by Mauritius	9	15	3	6	16	11	12	22	8	5	8	0	1	1	0	1	2	1	1	2	2	1	2	0

Data derived from UN Comtrade, 2012

Table 7 Madagascar's Exports of particular wood products (by destination country)

	Physical quantity (thousand cubic metres or thousand tonnes)											Export value (US$ million, fob, nominal)										
Destination	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Non-coniferous logs *(physical quantity – volume)*																					
Total	**9**	**6**	**3**	**0**	**0**	**1**	**8**	**1**	**16**	**8**	**0**	**4**	**2**	**1**	**0**	**0**	**1**	**2**	**0**	**4**	**14**	**0**
Study countries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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
China	8	5	3	0	0	1	1	0	11	7	0	4	2	1	0	0	1	1	0	3	13	0
EU-27	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	7	1	5	0	0	0	0	0	0	0	0	1	0	1	1	0
China	8	5	3	0	0	1	1	0	11	7	0	4	2	1	0	0	1	1	0	3	13	0
Unspecified	0	0	0	0	0	0	7	0	5	0	0	0	0	0	0	0	0	1	0	1	0	0
	Coniferous sawn wood *(physical quantity – volume)*																					
Total	**9**	**11**	**4**	**10**	**17**	**39**	**47**	**58**	**50**	**21**	**30**	**1**	**1**	**0**	**1**	**2**	**4**	**8**	**10**	**9**	**4**	**5**
Study countries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of Africa	7	9	3	5	14	26	14	19	22	17	21	1	1	0	1	1	2	2	3	4	3	3
China	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EU-27	2	2	1	4	2	12	30	36	27	3	5	0	0	0	0	0	2	5	6	5	1	1
Rest of world	0	0	0	0	0	1	3	3	1	0	3	0	0	0	0	0	0	0	0	0	0	0
Comoros & Mayotte	1	1	0	1	2	1	2	4	6	6	6	0	0	0	0	0	0	0	1	1	2	1
Mauritius	6	8	3	5	12	25	11	13	14	11	15	1	1	0	1	1	2	2	2	2	2	2
	Non-coniferous sawn wood *(physical quantity – volume)*																					
Total	**18**	**22**	**17**	**25**	**21**	**43**	**11**	**13**	**2**	**10**	**4**	**3**	**5**	**3**	**3**	**6**	**24**	**9**	**6**	**1**	**16**	**2**
Study countries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of Africa	2	2	2	2	3	3	2	4	1	1	1	0	0	0	0	1	1	1	1	0	0	0
China	0	3	8	0	2	29	6	8	0	8	2	0	2	1	0	2	22	7	5	0	15	2
EU-27	15	14	7	23	16	11	2	1	1	0	0	2	2	1	3	3	2	1	0	0	0	0
Rest of world	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Comoros & Mayotte	0	1	1	2	1	2	2	3	1	1	1	0	0	0	0	0	0	0	0	0	0	0
Mauritius	2	1	0	1	2	1	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0
	Paper *(physical quantity – weight)*																					
Total	**1**	**0**	**0**	**1**	**4**	**5**	**5**	**13**	**8**	**6**	**6**	**4**	**1**	**1**	**4**	**3**	**6**	**7**	**98**	**10**	**8**	**7**
Study countries	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Rest of Africa	0	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0	0	0	18	0	1	1
China	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EU-27	0	0	0	0	3	5	2	7	2	1	1	3	1	0	1	3	6	3	74	4	1	2
Rest of world	0	0	0	1	0	1	3	4	6	4	4	1	0	0	2	0	1	4	5	5	5	4
Unspecified	0	0	0	1	0	0	3	4	5	4	4	0	0	0	2	0	1	4	5	5	5	4

Data derived from UN Comtrade, 2012

Table 8 Madagascar's Imports of particular wood products (by supplying country)

	Physical quantity (thousand cubic metres or thousand tonnes)											Import value (US$ million, cif, nominal)										
Destination	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
	Non-coniferous logs *(physical quantity – volume)*																					
Total	**0**	**0**	**0**	**1**	**2**	**1**	**10**	**17**	**17**	**6**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**1**
Study countries	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	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
China	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EU-27	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	1	2	1	10	17	17	6	6	0	0	0	0	0	0	1	1	1	0	1
Unspecified	0	0	0	1	2	1	10	17	17	6	6	0	0	0	0	0	0	1	1	1	0	0
	Paper *(physical quantity – weight)*																					
Total	**19**	**26**	**16**	**33**	**36**	**46**	**42**	**44**	**51**	**31**	**38**	**23**	**27**	**18**	**37**	**42**	**65**	**53**	**62**	**70**	**41**	**46**
Study countries	6	10	9	11	16	16	14	11	15	8	8	5	9	10	10	14	15	15	14	18	9	10
Rest of Africa	0	1	0	1	1	9	3	2	2	3	5	2	1	0	2	2	22	4	3	5	5	7
China	0	1	0	2	2	2	4	9	11	4	6	2	1	0	4	5	5	8	17	17	6	7
EU-27	6	8	4	9	5	5	6	4	4	3	3	8	9	5	12	9	9	11	9	9	8	8
Rest of world	7	7	2	9	12	14	16	18	19	13	16	6	6	2	8	12	13	15	19	21	12	15
South Africa	6	10	9	11	16	16	14	11	15	8	8	5	9	10	10	14	15	14	13	17	9	10
Indonesia	4	3	1	4	2	2	3	4	4	2	3	2	2	1	3	2	3	3	4	5	2	3
Unspecified	2	2	1	2	5	5	5	4	4	3	3	2	2	1	3	5	4	5	5	3	3	3

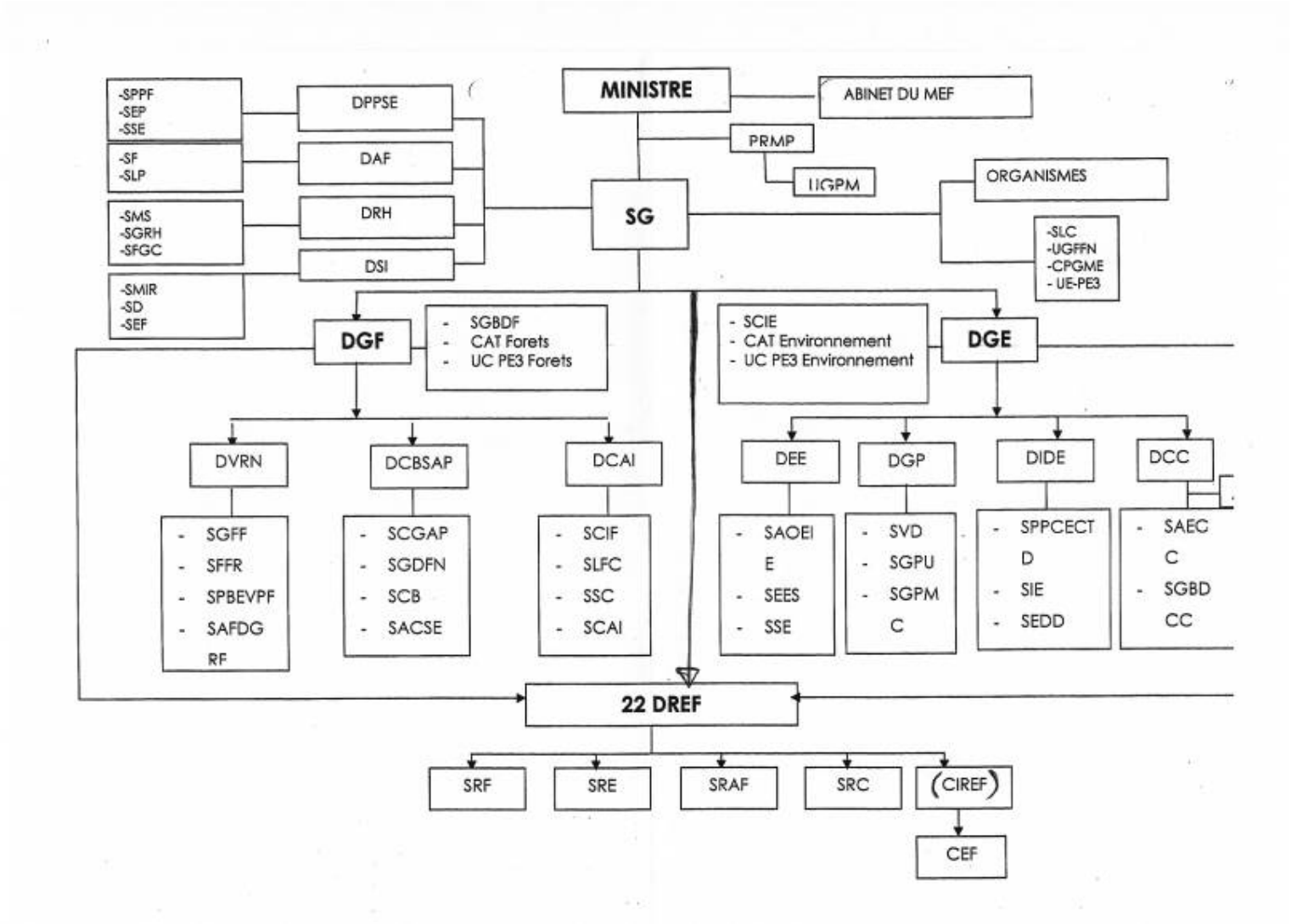
Data derived from UN Comtrade, 2012

Note on the data of Annex 8:

Source: based on UN Comtrade. 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 m^3 per m^3) 1 (logs), 1.4 (particleboard), 1.8 (sawn wood and fibre board), 1.9 (veneer and mouldings), 2.3 (plywood) and (in m^3 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).

Definitions of terms used in these charts and tables:
Fuel sector - firewood (HS code 440110) and charcoal (HS code 440200);
Paper sector – wood chips (HS codes 44012*), wood residues (HS codes 44013*), 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.

Annex 9 - Organizational chart of the Ministry of Environment and Forests



Annex 10 - Evolution of the authorization to export wood of different species and types of products

Table 9 Evolution of the authorization to export wood of different species and types of products according to the legislation

"No" means export forbidden; "Yes" means export allowed on some conditions (certain operators, certain periods of the year considered, e.g.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	**2012**
Species of Category 1: Logs or sawn wood or finished products (*)	No	No	No	No	No	No	No	No	No	No	No	No	**No**
Rosewood & ebony: Logs	Yes→No	No	No	No	Yes	Yes → No → Yes	Yes→No	No	No	Yes	Yes	No	**No**
Rosewood & ebony: Sawn wood	Yes→No	No	No	No	Yes	Yes → No → Yes	Yes→No	No	No	Yes	Yes	No	**No**
Rosewood & ebony: Finished products	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	**No**
Palissandre: Logs	No	No	No	No	No	No	No	No	No	No	No	No	**No**
Palissandre: Sawn wood	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	**No**
Palissandre: Finished products	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**Yes**
Other woods from natural forests: Logs	No	No	No	No	No	No	No	No	No	No	No	No	**No**
Other woods from natural forests: Sawn wood	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No	**No**
Other woods from natural forests: Finished products	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**Yes**
Wood from plantations: Logs	No	No	No	No	No	No	No	No	No	No	No	No	**No**
Wood from plantations: Sawn wood	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**Yes**
Wood from plantations: Finished products	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	**Yes**
Charcoal from natural forest	No	No	No	No	No	No	No	No	No	No	No	No	**No**
Charcoal from plantations	No	No	No	No	No	No	No	No	No	Yes	No	No	**No**

Notes: (*) cannot be logged; (**) When a text is promulgated to close the export, usually some export continues for some time until all authorized stocks have been exported.

The table highlights (i) the succession of "open" and "closed" periods for the export of precious woods (logs and sawn timber), (ii) the fact that the export of logs is hardly ever authorized except for precious woods for which it is the most common form of export, and (iii) the contrast between the current really restrictive policy from the legal point of view (finished products of rosewood and ebony cannot even be sold on the Malagasy market, no logs of any species can be exported, sawn wood of palissandre and all other woods of natural forests cannot be exported) compared to the unleashed formal industry of export of precious wood in 2009 and 2010.

This evolution of the legislation year by year can support the interpretation of the fluctuations of the UN Comtrade statistics of exports of the country for the different types of products, although an accurate correspondence is difficult to establish due to the phenomenon of buffer stockpiles which exist especially for the rosewood (when a text is promulgated to close the export, usually some export continues for some time until all authorized stocks have been exported, and the concept of authorized stock is very fuzzy).

Source: UN Comtrade, 2012

Annex 11 - Maps of timber flows to and from Madagascar

Notes: The maps of this annex are based on the data from the Malagasy Customs and concern the annual mean of the period from 2008 to 2011. This set of data has been chosen for this purpose as it is the only one providing comprehensive information including ports. Another justification is that Malagasy wood trade exchanges have evolved very much in the second half of last decade, so that it is important to present the latest picture.

Strictly speaking these data include Timber sector products *and* Fuelwood sector products, but the latter are negligible among the international flows of the former.

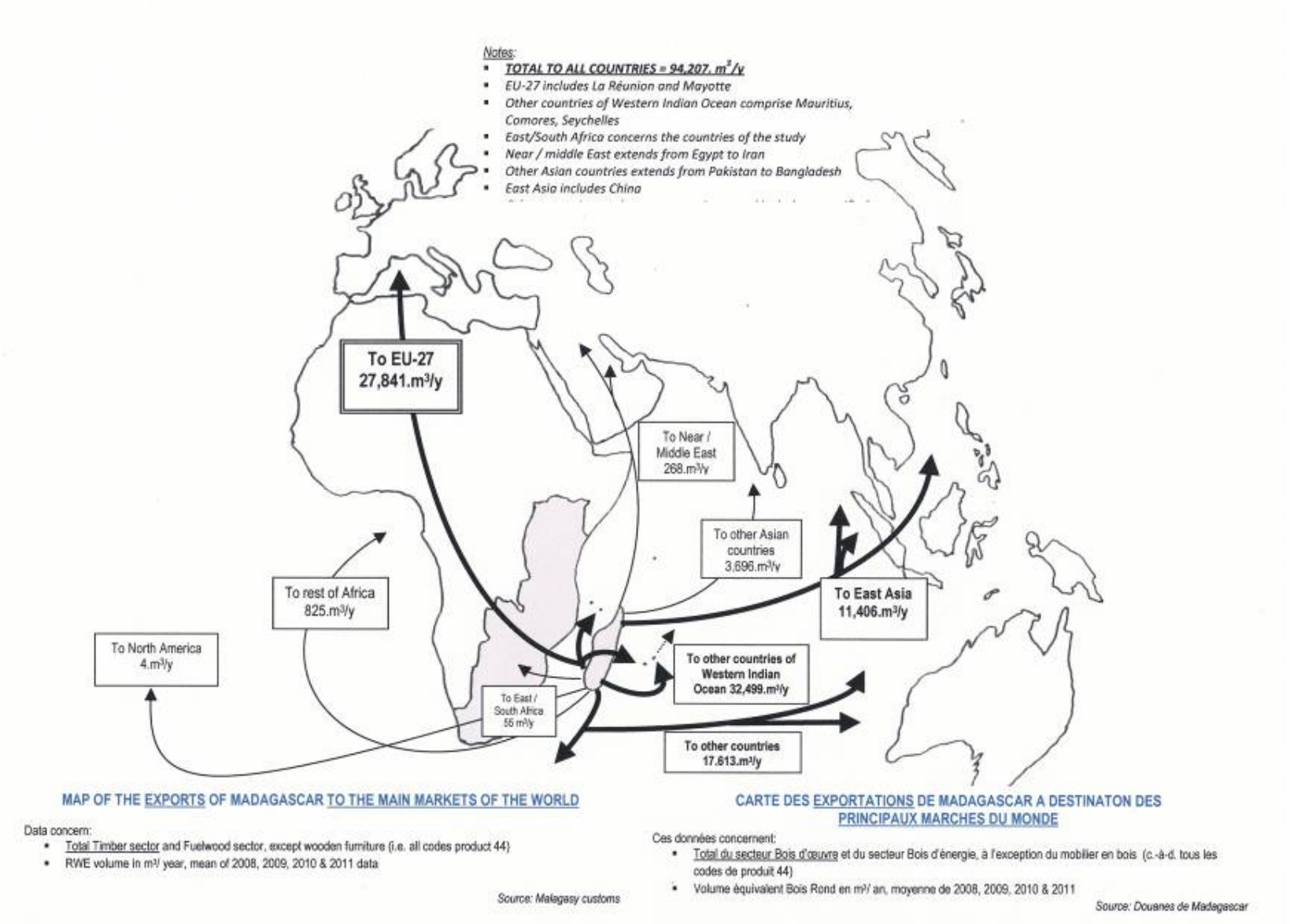


Figure 14 Map of the timber exports of Madagascar to the main markets of the world

Date received: 2012

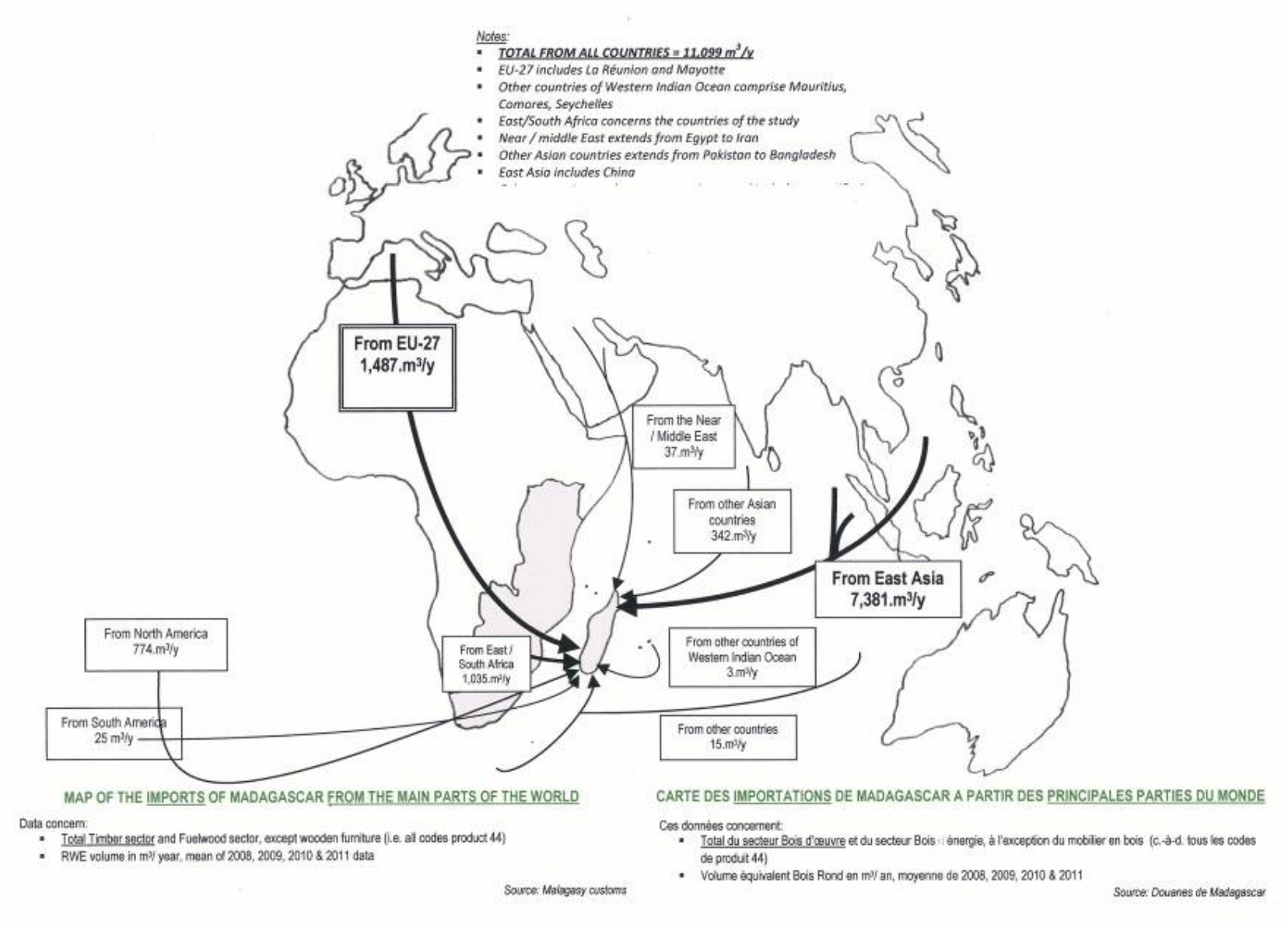


Figure 15 Map of the timber imports of Madagascar from the main parts of the world

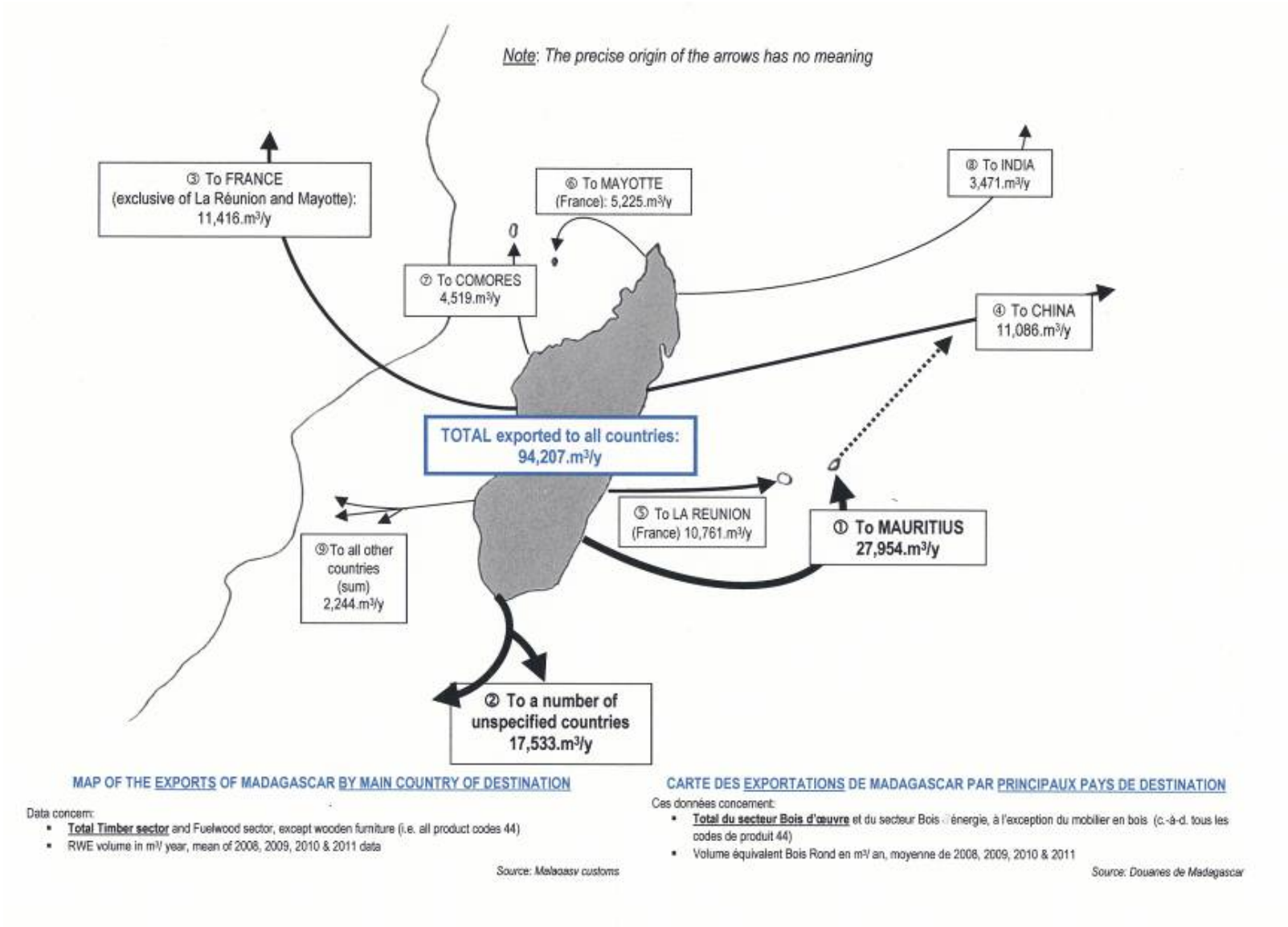


Figure 16 Map of the timber exports of Madagascar by main country of destination

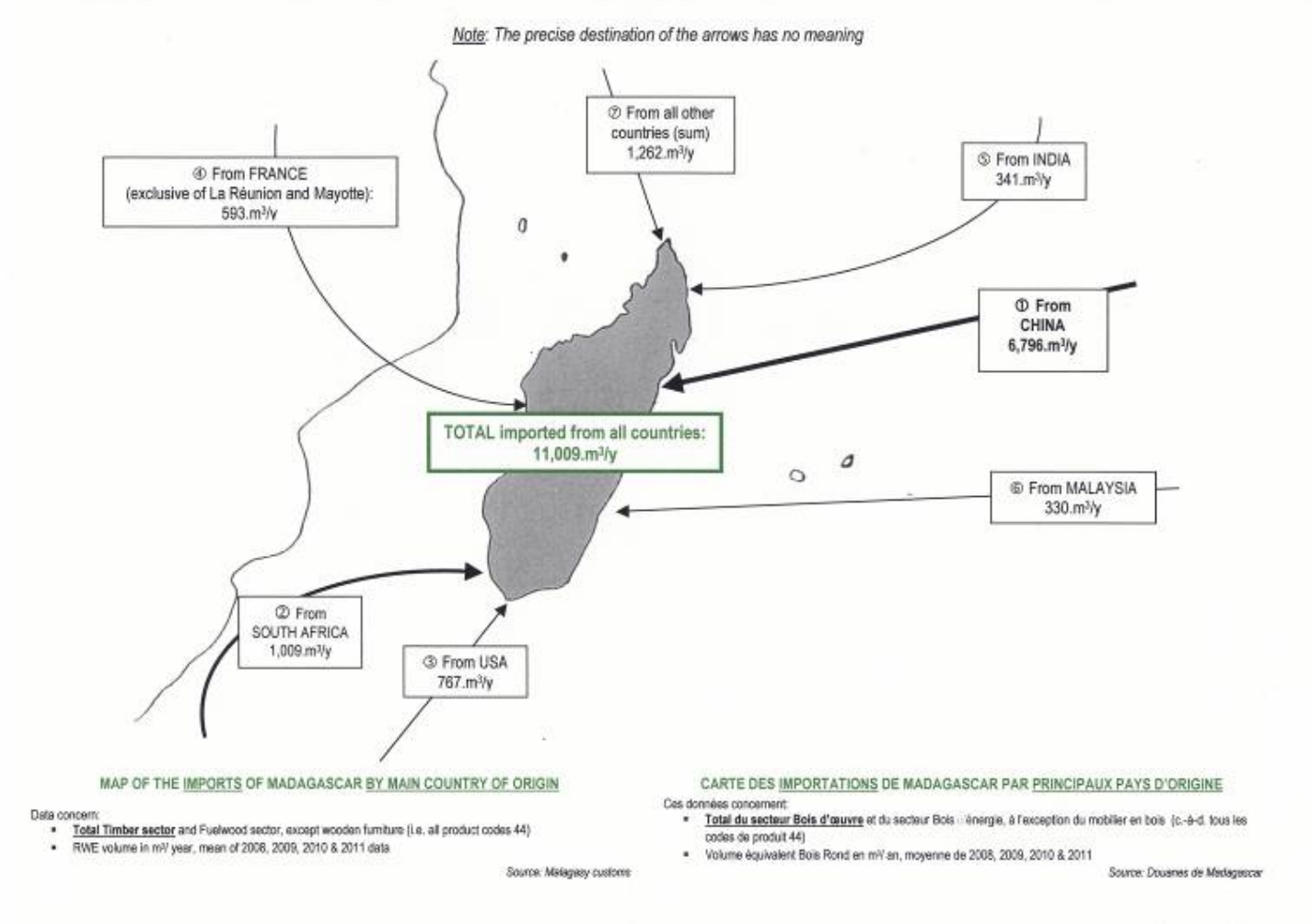


Figure 17 Map of the timber imports of Madagascar by main country of origin

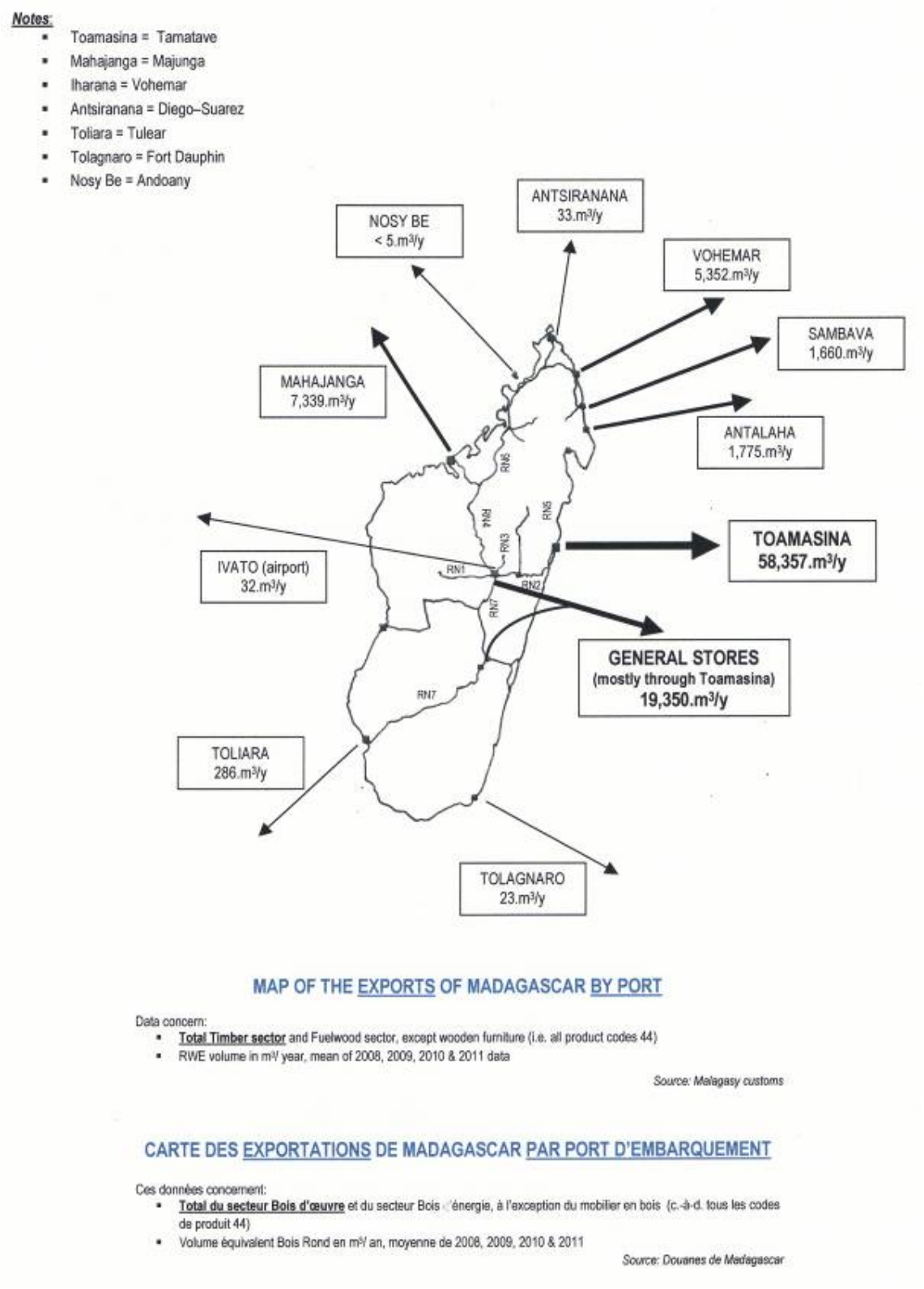


Figure 18 Map of the timber exports of Madagascar by port

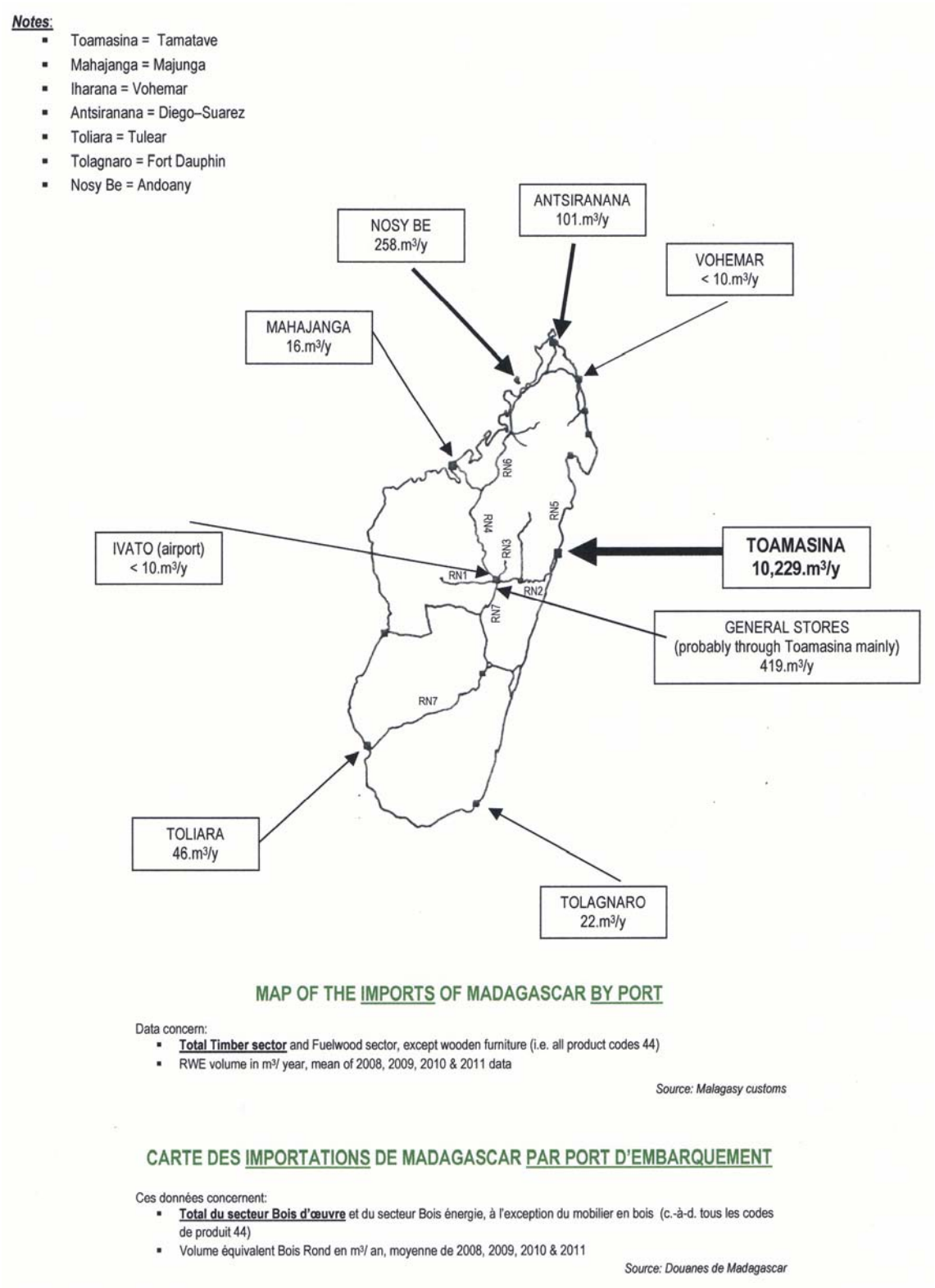


Figure 19 Map of the timber imports of Madagascar by port

Annex 12 - Charts of legal and illegal wood flows within Madagascar

The following figures 20, 21 and 22 come from the report: IRG (2007a), Etude sur la mise en place d'un système de gestion des permis et de traçabilité des produits forestiers. MEEFT / DGEF / USAID / Projet JariAla. The key to read these figures is provided hereafter:

Primary origins (forest) are shown on the left of the figures, intermediate destinations (processing, downstream storing) are shown in the centre and final destinations are shown on the right.

Acronym	Meaning in French	Equivalent in English
AE	Autorisation d'exportation	Authorization to export
AT	Autorisation de transport	Authorization of transport
B	Bon	Order
BE	Bon d'enlèvement	Removal order
CC	Carnet de chantier	Field document, site record
Exp	Exportateur	Exporter
F	Facture	Invoice
FP	Fiche de prospection	Prospecting record
IS	Inventaire des stocks	Inventory of the stocks
LP	Laissez-passer	Laissez-passer
P	Permis	Permit
PC	Permis de coupe	Cutting permit
SF	Service forestier (empreinte du marteau)	Forest administration (imprint of the hammer)
VEBS	Vente aux enchères de bois saisi	Sale of seized wood by public auction

Origins	Meaning
	Normal origin
	Particular origin : seizures
	Could be considered legal but normally outdated system
	Could be considered legal but normally outdated system

Documents & justifications	Meaning
●	Document in regular use (compulsory in legal flows)
● striped	Optional document (sometimes issued / requested)

Flows (arrows)		Meaning
→	Black arrow	Legal flow
➡	Black arrow thick	Main flows
→	Black arrow thin	Secondary flows
→	Red arrow	Illegal flow
➡	Red arrow thick (followed by a black arrow)	Laundered wood (Laissez-passer issued)
→	Red arrow thin	Not yet laundered by a laissez-passer
⇢	Red arrow thin and dotted	De facto laundered downstream because mixed with legal wood
→	Green arrow thin	Movement of documents

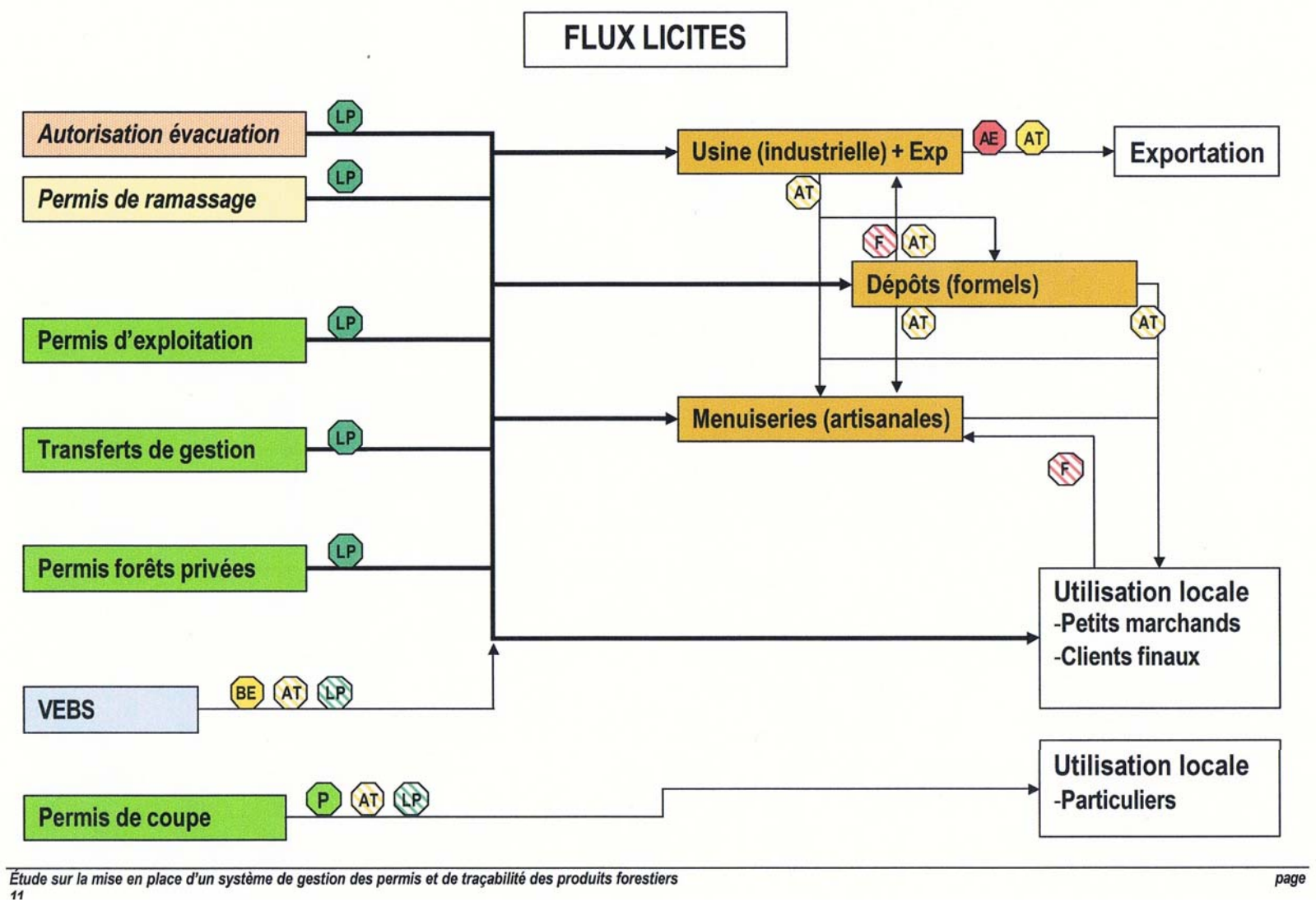


Figure 20 Legal flows of wood products

Source: IRG (2007a)

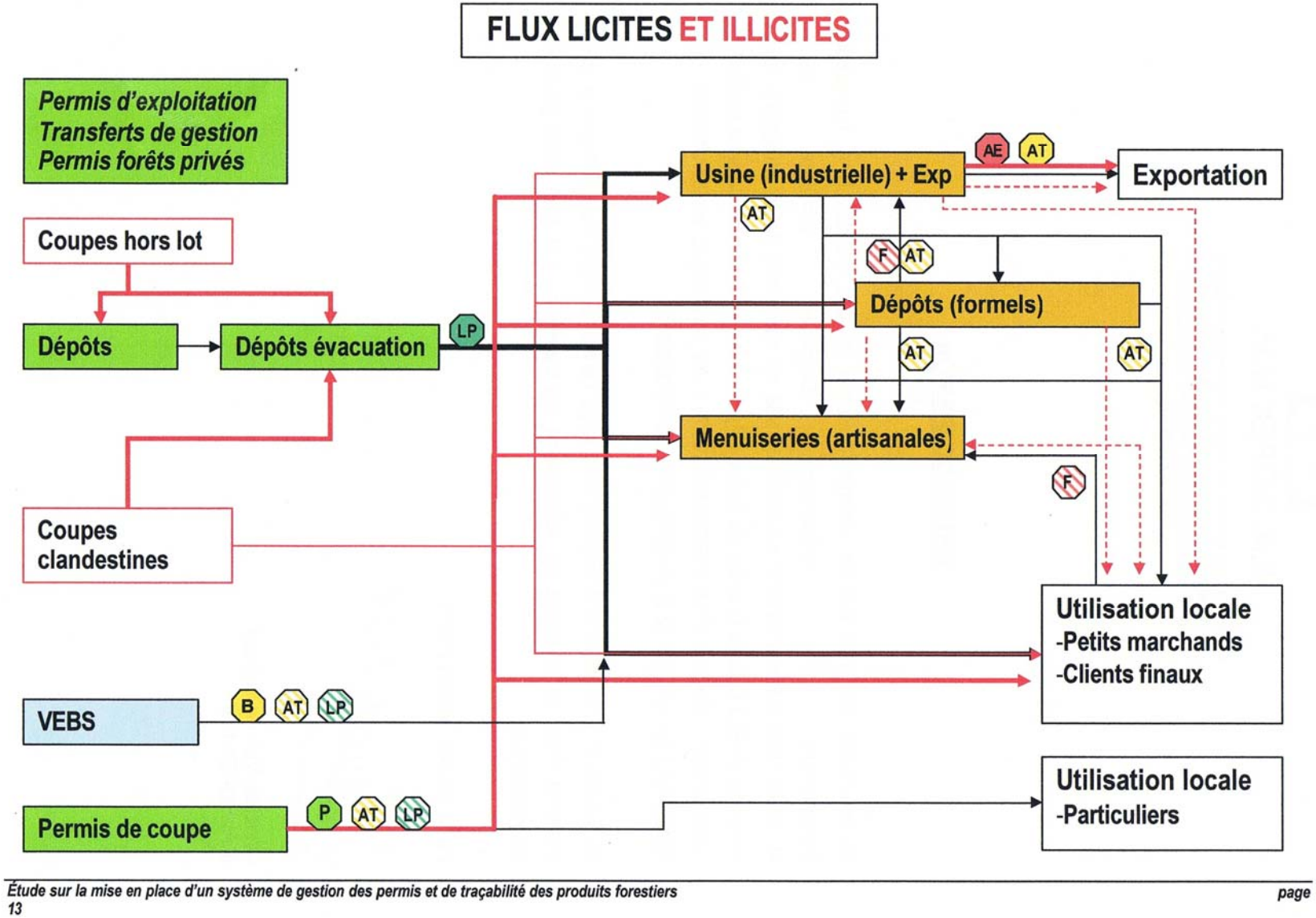


Figure 21 Legal and illegal flows of wood products

Source: IRG (2007a)

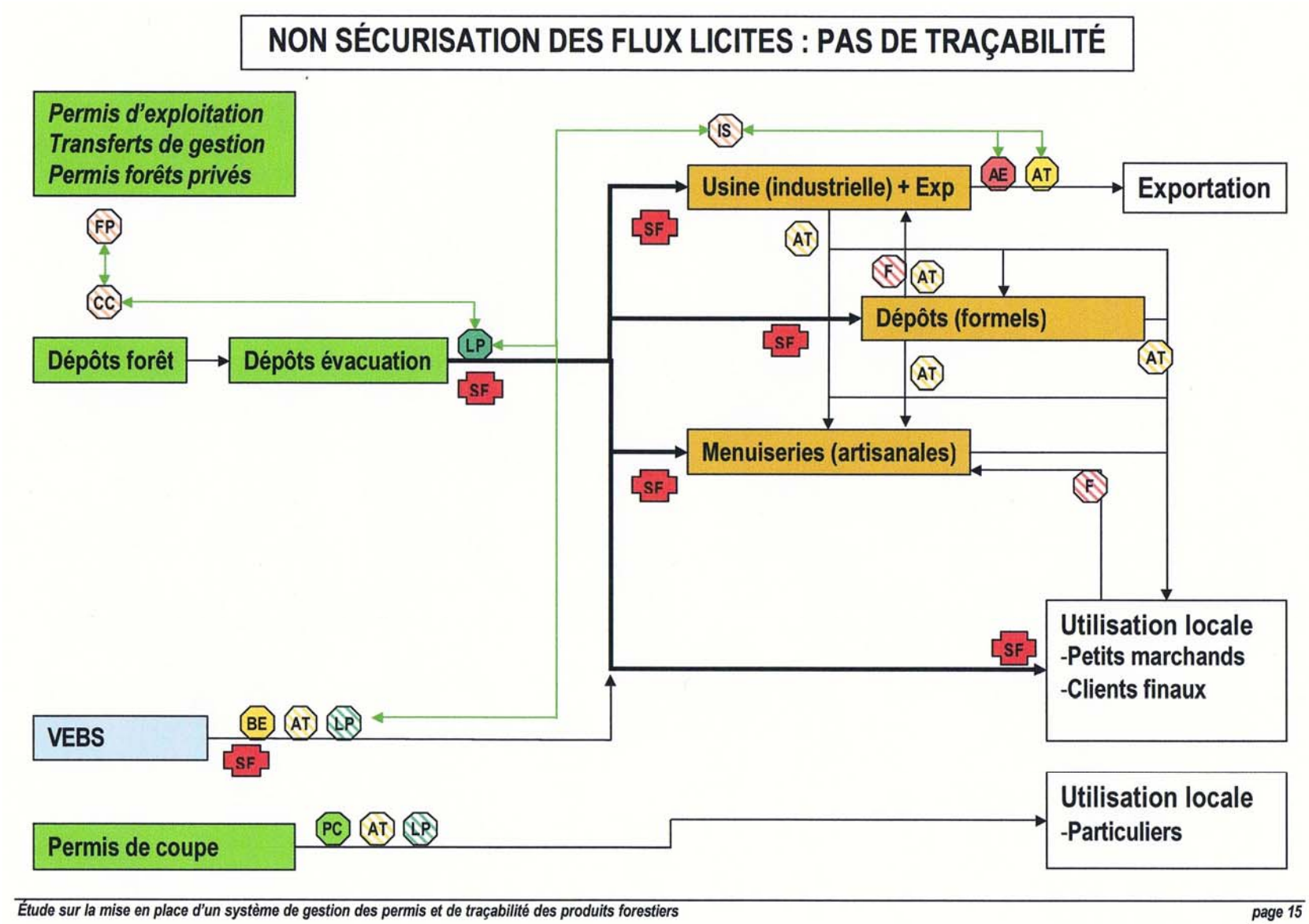


Figure 22 Lack of securing of the legal flows of wood products

Source: IRG (2007a)

Annex 13 - Comparison of the official production of wood to the consumption in the country

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

Table 10: Comparaison de la production officielle de bois (enregistrée par la DGF) avec la consommation nationale réelle estimée:

PRODUCTION	(DGF)	2005	2006	2007	2008	2009	2010	Average	Max	Min
Logs	(m3 RWE)	513800	359900	186900		85300	560300	341240	560300	85300
Sawn timber	(m3 RWE)	738900	1159900	8900		53500	1727000	737640	1727000	8900
Total timber	(m3 RWE)	1252700	1519800	195800		138800	2287300	1078880	2287300	138800
Charcoal	(m3 RWE)	1139900	5322500	13200		480200	11290360	3649232	11290360	13200
Firewood	(m3 RWE)	323000	52000	11400		135400	205000	145360	323000	11400
Total wood	(m3 RWE)	2715600	6894300	220400		754400	13782660	4873472	13782660	220400
EXPORTS	(UN Comtrade)	2005	2006	2007	2008	2009	2010	Average	Max	Min
Logs	(m3 RWE)	1000	8000	2000		8000	3000	4400	8000	1000
Sawn timber	(m3 RWE)	149000	105000	129000		56000	61000	100000	149000	56000
Total timber	(m3 RWE)	150000	113000	131000		64000	64000	104400	150000	64000
Charcoal	(m3 RWE)							0	0	0
Firewood	(m3 RWE)							0	0	0
Total wood	(m3 RWE)	150000	113000	131000		64000	64000	104400	150000	64000
IMPORTS	(UN Comtrade)	2005	2006	2007	2008	2009	2010	Average	Max	Min
Logs	(m3 RWE)	1000	10000	17000		6000	7000	8200	17000	1000
Sawn timber	(m3 RWE)	0	0	1000		2000	0	600	2000	0
Total timber	(m3 RWE)	1000	10000	18000		8000	7000	8800	18000	1000
Charcoal	(m3 RWE)							0	0	0
Firewood	(m3 RWE)							0	0	0
Total wood	(m3 RWE)	1000	10000	18000		8000	7000	8800	18000	1000
PRODUCTION (& imports) FOR NATIONAL MARKET	(difference)	2005	2006	2007	2008	2009	2010	Average	Max	Min
Logs	(m3 RWE)	513800	361900	201900		83300	564300	345040	564300	83300
Sawn timber	(m3 RWE)	589900	1054900	-119100		-500	1666000	638240	1666000	-119100
Total timber	(m3 RWE)	1103700	1416800	82800		82800	2230300	983280	2230300	82800
Charcoal	(m3 RWE)	1139900	5322500	13200		480200	11290360	3649232	11290360	13200
Firewood	(m3 RWE)	323000	52000	11400		135400	205000	145360	323000	11400
Total wood	(m3 RWE)	2566600	6791300	107400		698400	13725660	4777872	13725660	107400
CONSUMPTION	(GISC,2009)	2005	2006	2007	2008	2009	2010	Average		
Logs	(m3 RWE)							0		
Sawn timber	(m3 RWE)							0		
Total timber	(m3 RWE)	4127000	4127000	4127000		4127000	4127000	4127000		
Charcoal	(m3 RWE)	8575000	8575000	8575000		8575000	8575000	8575000		
Firewood	(m3 RWE)	9026000	9026000	9026000		9026000	9026000	9026000		
Total wood	(m3 RWE)	21728000	21728000	21728000		21728000	21728000	21728000		
% captured	(ratio)	2005	2006	2007	2008	2009	2010	Average	Max	Min
Logs	(m3 RWE)									
Sawn timber	(m3 RWE)									
Total timber	(m3 RWE)	27%	34%	2%		2%	54%	24%	54%	2%
Charcoal	(m3 RWE)	13%	62%	0%		6%	132%	43%	132%	0%
Firewood	(m3 RWE)	4%	1%	0%		2%	2%	4%	4%	0%
Total wood	(m3 RWE)	12%	31%	0%		3%	63%	22%	63%	0%

The source of the data is indicated in the second column of the table. The data from these sources have been converted to RWE volume using the same conversion factors as in Annex 8, 2012