

## Review of Significant Trade *Pericopsis elata*

(November 2003)

### 1. Summary (including recommended category and the basis for categorization)

*Afromosia Pericopsis elata* is a timber-producing species native to countries of west and central Africa occurring in the Guinean Equatorial forests. It has a disjunct distribution with several isolated sub-populations occurring in Cote d'Ivoire and Ghana; Central African Republic (CAR), eastern Cameroon and Congo; and the Democratic Republic of Congo (DRC). Details of the ecology of the species remain poorly known.

*Pericopsis elata* is currently classified as Endangered by IUCN. Declines as a result of logging in Cote d'Ivoire, Ghana and Nigeria have been marked since international trade began 50 years ago. Significant stocks do however remain in Cameroon, Congo and DRC where the forests are more extensive and logging of this species has been more recent.

Legislative and administrative procedures are in place to manage the forests in the countries where *Pericopsis elata* occurs but problems of implementation and enforcement remain. The extent to which general forestry provisions are used to fulfill CITES Article IV requirements of CITES remains unclear. The development of clear procedures for making CITES non-detriment findings in compliance with Article IV remains a priority in the main countries of export. The establishment of a national export quota for each exporting country based on information on the distributional range of the species combined with information on the abundance or stocks of the species in different areas would be one approach. Such a quota would mean that the country concerned had determined that the export of a certain amount of specimens per year would not be detrimental to the survival of the species. Under such circumstances, the Management Authority would not need to consult the Scientific Authority for each export, although it should have consulted the Scientific Authority before it established an export quota.

The development of monitoring procedures in accordance with Article IV, paragraph 3 also remains a priority in the main countries of export.

Based on a short review of available information the following provisional categorization is given for *Pericopsis elata* in accordance with paragraph i) of Resolution Conf. 12.8.

**Category 'Species of possible concern' for which it is not clear whether or not the provisions of Article V, paragraphs 2 (a) or 3 are being implemented**

#### **Cameroon, CAR, Congo, and DRC**

**Cameroon** is proposed for inclusion in this category as there are concerns that the provisions of Article IV, paragraphs 2 (a) and 3 are not being fully met. Steps have however been taken to conserve a significant proportion of the range of the species within formally protected areas and Forest Management Units managed for biodiversity conservation', and the levels of export may be in accordance with Article IV paragraph 2 (a). More information on monitoring procedures are necessary to confirm that the provisions of Article IV, paragraph 3 are being met.

**CAR and Congo** are proposed for inclusion in this category because of the levels of export of *Pericopsis elata* from these countries and the absence of adequate measures to monitor harvest and export volumes in accordance with CITES. Although the CITES reported trade in the species from CAR is limited and irregular there are concerns about the general lack of information on the distribution and abundance of *Pericopsis elata* and of mechanisms to control the trade. Collation of information on distribution and abundance of the species within the country would be a valuable first step as the basis for setting an export quota. With regard to Congo it is unclear whether the current measures regarding the harvest and export of *Pericopsis elata* are sufficient to comply with the requirements of Article IV, Paragraphs 2 (a) and 3.

DRC is proposed for inclusion in this category as there are concerns that the provisions of Article IV, paragraphs 2 (a) and 3 are not being fully met. Of particular concern is the apparent lack of monitoring as required for implementation of Article IV, paragraph 3.

**Category 'Species of least concern' for which the available information appears to indicate that the provisions of Article IV, paragraphs 2 (a) and 3 are being met**

Côte d'Ivoire, Ghana and Nigeria are proposed for inclusion in this category because the levels of export of *Pericopsis elata* are limited, or no longer take place, as a consequence of reduced stocks and national controls.

#### **Additional remarks**

As outlined in sections 3.2 and 3.3 below, there are concerns about the regulation of harvesting and legality of exports of *Pericopsis elata* from certain range states and greater efforts appear to be required to ensure compliance with Article IV, paragraph 2 (b) of the Convention.

Information compiled for this review suggests that a re-evaluation of the IUCN global threat category may be appropriate given the increased information that is now available on the distribution and abundance of *Pericopsis elata* in countries of Central Africa.

## **2. Species biology and conservation status**

*Pericopsis elata* has a disjunct distribution occurring in Cameroon, Congo, Côte d'Ivoire, Democratic Republic of Congo (DRC), Ghana and Nigeria. There are also reports of it occurring in Central African Republic (Lejeune, pers.comm. 2003; Renaat van Rompaey, in litt. 2003) although this is not generally recorded in the botanical literature. The species is generally found in semi-deciduous forests.

Concern about the levels of exploitation of *Pericopsis elata* have been expressed by various organizations. The National Academy of Sciences, for example noted in 1979 that "Nowhere is the tree's regrowth adequate to sustain continued commercial production of the timber" (Anon, 1979). The Food and Agriculture Organization of the United Nations (FAO), 1986 noted that the species is "endangered in parts of its geographical range and in danger of genetic impoverishment throughout the entire range". The species is currently recorded as Endangered (criterion A1cd) by IUCN based on the results of an African Regional Workshop held in Zimbabwe in 1996. Criterion A1cd according to the 1994 definitions followed at the African Regional Workshop is:

Population reduction in the form of:

An observed, estimated, inferred or suspected reduction of at least 50% over the last 10 years or three generations, whichever is longer, based on (and specifying) any of the following:

- c) a decline in area of occupancy, extent of occurrence and/or quality of habitat
- d) actual or potential levels of exploitation

The species was included in Appendix II of CITES following a decision at the Eighth Meeting of the Conference of the Parties in 1992. Subsequently the report *Contribution to an evaluation of tree species using the new CITES Listing Criteria* (WCMC, 1998) noted that *Pericopsis elata* meets the CITES criteria for inclusion in Appendix II contained in Resolution Conf. 9.24 on the basis of:

*B. It is known or inferred that the harvesting of specimens from the wild for international trade has, or may have, a detrimental impact on the species by:*

*exceeding, over an extended period, the level that can be continued in perpetuity.*

The *Association Technique Internationale des Boix Tropicaux* (ATIBT), 2002 notes that:

Due to the particularity of the natural regeneration and poor recruitment to the exploitable intermediate and larger size classes in the natural closed forest environment, the current population status, range and composition of *Pericopsis elata* is rather fragmented and unbalanced. For this reason future timber supplies of the species are likely to be limited.

## 2.1 Life history and ecology

*Pericopsis elata* is a semi-gregarious species with a limited but widely dispersed distribution. It is locally abundant in parts of its range. The species occurs in dryer parts of moist semi-deciduous forests with annual rainfall of 1000 – 1500 mm. Swaine and Whitmore (1988) consider this species to be a true pioneer, stimulated to germinate by gaps in the canopy. The lack of natural regeneration for this species has been widely noted (for example see: Anon, 1979; Hawthorne, 1995). Forni (1997) studied *Pericopsis elata* in unexploited forest in Southeast Cameroon and reported low recruitment and regeneration levels under closed canopy conditions.

Ripe, indehiscent pods, which may be wind-dispersed in strong winds, are produced at the beginning of the dry season (August – November) (Hawthorne, 1995). Each pod contains between 1-3 flat seeds. Years of abundant seed generation have been recorded but in many fruiting years germination is said to be poor (Howland, 1979). Seedlings are reported to be drought tolerant. Saplings tend to have a spreading, bushy habit. In suitable conditions growth may be rapid, up to 1 cm increment in diameter per year.

## 2.2 Global distribution – range States of the species

Cameroon, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of Congo (DRC), Ghana and Nigeria.

## 2.3 Population distribution, status, trend and threats by range State

**Cameroon:** In Cameroon the distribution of *Pericopsis elata* is restricted to the south of the country in the Dja, Boumba, Ngoko and Sangha river basins. The area of distribution is approximately 3,730,000 ha (MINEF, 2002). ATIBT has pointed out that illegal logging and lack of respect for the minimum exploitable diameter are causes for vulnerability of *Pericopsis elata* in Cameroon, rather than legally controlled commerce.

**Central African Republic:** In the southwest of the country, in the regions of Sangha and Lobaye, forests cover 3.7 million ha (Forests Monitor, 2001). *Pericopsis elata* is currently being logged in these areas particularly close to the borders with Cameroon and Congo. No information on the national distribution and status of *Pericopsis elata* has been located for this study.

**The Republic of Congo:** Stocks of *Pericopsis elata* are concentrated in the north of the country where deforestation has been low. Northern forest cover consists of over 15 million ha of equatorial forest. It has been reported that *Pericopsis elata* has its optimal distribution in flooded zones along rivers. The forest industry first developed in the southern Mayombe forest region of Congo due to accessibility by road and rail. Now however, most of the logging companies are in the north, as they were better able to continue operating through the national conflicts between 1993 and 1999.

**Côte d'Ivoire:** *Pericopsis elata* was included in a list of threatened species of Côte d'Ivoire published in 1988 (Ake Assi, 1988). The species is localized in the east (Abengourou), northeast (Bondoukou) and along the frontier with Ghana. Some isolated populations have been reported in the west (Guiglo) and in the Forêt Classée de Yapo in the south (Kouame, in litt, 2003).

**Democratic Republic of Congo (DRC):** DRC has the largest remaining stocks of *Pericopsis elata*. It is found in the forests of Yangambi-Banalia-Kisangani (Ministry of Environment and Forestry, Cameroon, 2002). Around Kisangani, afromosia is the main commercial species. Reported threats to *Pericopsis elata* in Kisangani are use of the wood by local people for charcoal production, use of wood for carpentry, medicinal use of bark for treating cancer, increasing exploitation of the timber by foreign logging companies. There is also a problem of felling by local loggers who cannot then afford the transport costs to take the timber to markets. (Mianda-Bungi, in litt 2003).

**Ghana:** Tropical high forest covers about seven percent of Ghana's land area. Almost all of this forest is found in Forest Reserves, and the Forest Department estimates that about half of this forest area is in reasonable condition. Outside the Reserves, forest resources occur in small forest patches and trees on farms. According to Hawthorne, 1995, *Pericopsis elata* was once common in semi deciduous forest but is now threatened by excessive logging. Based on inventory data, Alder (1989) estimated the resource life (i.e. the number of years that a species can continue to be commercially utilized at the current rate of extraction) for *Pericopsis elata* to be zero.

**Nigeria:** *Pericopsis elata* has been recorded as occurring mainly in the east of the country and was noted by Keay et al, 1964 as being “locally abundant”. It is a rare species in the country as a whole (Lowe, in litt. 2003). The need for conservation of *Pericopsis elata* in Nigeria was noted by Ola-Adams (1977). He suggested that *ex situ* conservation would be appropriate because of heavy exploitation. Tropical high forest covers two percent of Nigeria and is being depleted at an annual rate of 3.5 percent. The area of tropical high forest in Cross River State, the State with the greatest closed forest cover, is 729, 000 ha. Table 1 shows inventory data for *Pericopsis elata* in Cross River State based on inventory carried out in 1994. In the north of Cross River State, serious farm encroachment is recorded as a threat to *Pericopsis elata*. Trees in general are girdled, cut and destroyed in the process of forest clearance. Burning of stands of *Pericopsis elata* have recently been noted (Gabu Community Yala L.G.A, 2002).

**Table 1 – Inventory data for *Pericopsis elata* in Cross River State, Nigeria**

Diameter Size Classes (cm)	10-29	30-49	50-69	70-89	> 90
Stocking/ha.	0.169	0.119	0.034,	0.021	0.008

Despite legal protection in Cross River State, illegal logging continues to be a threat (Otu, in litt. 2003).

### 3. Conservation and management

#### 3.1 Habitat protection

A detailed assessment of the occurrence of *Pericopsis elata* in protected areas has been outside the scope of this study but the following limited information has been recorded:

**Cameroon:** According to Ministry of Environment and Forestry (MINEF), 2002, within the area of distribution of *Pericopsis elata* in Cameroon, protected areas are Parc National de Boumba-Bek (321,078 ha) Parc National de Nki (238,853 ha), Parc National de Lobeké (217,200 ha) and Réserve Ecologique Intégrale de Messomesso. In total these cover 22 percent of the zone of distribution of the species. In addition there are 30 Forest Management Units (FMUs) in the area of distribution, nine of which, with an area of 895,494 ha, are covered by a biodiversity conservation project. In total therefore, 46 percent of the area of distribution of *Pericopsis elata* in Cameroon is protected (MINEF, 2002).

**Central African Republic:** Based on information in Sayer et al (1992) it appears possible that *Pericopsis elata* occurs in the Dzanga-Sangha Dense Forest Faunal Reserve which incorporates the Dzanga-Ndoki National Park.

**Congo:** Based on information in Sayer et al (1992) it appears possible that *Pericopsis elata* occurs in the Odzala National Park.

**Côte d'Ivoire:** No information located for this study.

**Democratic Republic of Congo (DRC):** No information located for this study.

**Ghana:** *Pericopsis elata* occurs in Bia National Park.

**Nigeria:** The Tree Conservation Database produced by WCMC in 1998 records the presence of this species in Ifu, Owo, Afi River and Eggua Forest Reserves. A community forest management plan for Yala Local Government Area (LGA) of northern Cross River State calls for the designation of *Pericopsis elata* stands in Gabu Forest Reserve as a Strict Nature Reserve (SNR) by the state Forestry Commission and Federal Government (Gabu Community Yala L.G.A, 2002). This work is in progress and will continue to keep the *Pericopsis* trees as a seed source for propagation of the species.

### 3.2 Regulation of wild harvesting

**Cameroon:** The Minimum Exploitable Diameter (MED) is specified in Decree No. 74/357 of 1974 with *Pericopsis* spp, listed as 'exceptionelle' species with MED set at 1.00 m. ATIBT recommends that the MED be reduced to 80 cm in Cameroon, so as to relieve pressure on the smaller diameter classes, which are cut indiscriminately due to the lack of trees over 1m in diameter.

New forestry legislation was passed in 1994. This divides the Permanent Forest Estate into state forests and communal forests. Six different types of logging permits are specified. Of these, Concessions (Conventions d'exploitation) are the only ones that require management plans and which are allocated through a competitive bidding process. Concessions can include one or more Forest Management Units (FMUs). The Concession is for a specified volume of timber and is reviewed every three years. (Forests Monitor, 2001). Management plans for FMUs are agreed by MINEF who specify the area and volume of timber that can be cut annually.

**Central African Republic:** Forestry in the Central African Republic is governed by the Forestry Code of 9 June 1990 and by certain articles of the 1995 Finance Law. In 2000 the total area under concession in the southwestern forests of the country was 3.2 million ha or 86 percent of the region. Concessions are granted for unlimited duration (Forests Monitor, 2001).

**Congo:** A national Forestry Code was adopted under Law No 004/74 of January 1974 and partly amended by Law No 32/82 of July 1982. The Forestry Code stipulated sustainable forest management in particular through the establishment of Forest Management Units (FMU) and the determination of Annual Allowable Cuts (AAC). The division of the National Forest Estate into FMUs took place in 1980 with support from FAO but forest management plans were not implemented at the time because of political instability. Subsequently a Tropical Forest Action Plan (PAFT) was developed and completed in 1997. A new Forestry Code has been produced based on this Plan. The Forestry Code was adopted under Law No 16/2000 of 20 November 2000 and a subsequent Decree outlines measures for its application. (ITTO, 2002).

There are currently 23 FMUs in northern Congo. Two of these are areas where *Pericopsis elata* is being felled. The FMUs are the basic forest areas for management, conservation, regeneration and logging operations. Allocation of development rights for FMUs is by calls for tender. Granting of logging rights in the forest estate is made either through an Industrial Processing Agreement (CTI), a Management and Processing Agreement (CAT) or a Special Permit (PS). These are usually decided by the Ministry of Forestry. Reforestation permits and special permits are granted on individual request.

Logging operators are obliged to harvest specifically determined areas according to an AAC, which corresponds to the Maximum Annual Volume authorized by the Forest Administration. The annual cut can only cover areas that have been the subject of a full enumeration of harvestable trees and the most sought after species. All holders of a logging permit must present each year to the Forest Administration a request for approval of the annual cut they plan to execute, along with the results of the enumeration on a map (scale 1/20,000) and a map or drawing (1/50,000) indicating existing and provisional stockyards, roads and skidding roads. The Forest Administration is responsible for verifying the enumerations and ensuring that the boundaries defined for the annual cut are in order before granting the logging permit. Each quarter, the operator must submit to the Forest Administration a summary account indicating the volume of production per species and destination (ITTO, 2002).

Felling must be carried out in such a way as to cause the least possible damage to neighbouring trees. Trees that are broken during felling are considered as "abandoned" and the operator is required to report them as such in the "observations" column of the site logbook. The operator is also required to note down unusable rotten trees and all trees of marketable species used for the construction of bridges and other civil engineering works.

*Pericopsis elata* is a protected timber species in Congo according to Law No 004/74; Decree No. 84/910 of 19.10.84; Law No 32/82 and Law No 003/91 (Maisels, 1996). The exact details of protection are unclear. Sébastien and Kiyulu N'Yanga-Nzo (2001) report that there are no regulations for protection of the species at a national level. Minimum Exploitable Diameter is set at 60 cm DBH.

**Côte d'Ivoire:** The species is included in a list of protected species given by Decree No.66-122, 31 March 1966. Under this Decree, uprooting and damage to the species is prohibited, as is the destruction of their seeds and fruit. Felling may be authorized however on sites of industrial plantations. It is not clear whether more recent legislation is in force to protect this species.

**Democratic Republic of Congo:** The forestry sector has been governed by Royal Decree of 1949 (Sébastien and Kiyulu N'Yanga-Nzo, 2001). A new Forest Code was developed in 1979 and amended in 1989. According to SGS (2002) only 40 million ha of forest out of a total of 125 million ha is under direct government control, following political upheaval.

Forest concessions cover approximately 11.8 m ha of which 8.2 million ha are possibly operational. In theory, a logging company is required to spend a year evaluating the concession and three years creating appropriate infrastructure before use of the concession is allowed. Logging concessions are allocated on a 25-year lease. A law exists which requires one or two trees to be planted for every tree felled, but apparently this law is not implemented (Forests Monitor, 2001). Lack of replanting specifically for *Pericopsis elata* is noted by Mianda-Bungi, in litt 2003.

New forestry legislation was passed in August 2002. This does not have specific requirements for individual species. *Afromosia* stocks are in rebel-controlled areas which are outside Government jurisdiction and where the new law is not applicable (Lejeune, pers. comm. 2003).

**Ghana:** The 1994 Forest and Wildlife Policy established the basis for sustainable forest resource management reversing the previous policy of timber removal without replacement in areas outside Forest Reserves. The Timber Resources Management Act (Act 547) of 1997 is the main legislation governing the use of forest resources. The Forestry Commission is the executive agency responsible for forest management and forest industry. Concessions, known as Timber Utilization Contracts, are allocated by the Forestry Commission. The Forestry Services Division of the Commission sets the total annual allowable cut for timber within the country (SGS, 2002). There is a felling limit of 110 cm (DBH) for *Pericopsis elata*. A permit is required prior to harvesting of the species.

**Nigeria:** The Forest Law of 1956 is the primary legislation regulating forest utilization and protection. The Forest Regulations 1963 make further provisions for protection of forest reserves and produce and for licensing of timber harvesting. *Pericopsis elata* is subject to complete protection in Cross River State (the State with the largest remaining stocks of the species) through *Forest law, marketing and transportation of forest products regulation* CRS Gazette No - 16 Vol.32 of 19 September, 1999.

### 3.3 Regulation of trade

Logs, sawn wood and veneer sheets of *Pericopsis elata* are subject to CITES controls. Cameroon, Ghana and Nigeria ban the export of logs of *Pericopsis elata* as part of general log export bans. The Government of DRC banned all log exports in 1999 but this was relaxed after lobbying from the timber industry (SGS, 2002).

The illegal international trade in timber from Central African countries has received considerable attention in recent years and various steps are being taken to improve general regulation.

**Cameroon:** A ban on log exports was introduced in 1999 for all species except *Triplochiton scleroxylon*. This has led to an increase in secondary processing of *Pericopsis elata* within the country particularly for the production of parquet flooring (ATIBT, 2002).

Control of timber exploitation is the responsibility of MINEF with control measures at the point of felling, along transport routes, at processing operations and at the points of export. In 2000, a Unité Centrale de Contrôle (UCC) was set up by MINEF to coordinate forestry controls nationally and to support provincial Brigades de Contrôle. To reinforce transparency in control measures MINEF has appointed an independent observer, Global Witness (MINEF, 2002). Global Witness has not undertaken field work in the southeast of Cameroon where *Pericopsis elata* occurs and work in the east of the country has been recommended as a priority (Global Witness, 2002a). Specific CITES requirements for *Pericopsis elata* are the responsibility of MINEF which is the Cameroonian Management Authority for CITES.

MINEF records information on trade in timber on a log by log basis within a database system for the collection of revenue and to support law enforcement.

In 2001, the Scientific Review Group (SRG) convened under EU legislation, on which member States' Scientific Authorities are represented, formed a negative opinion on the conservation effects of imports of *Pericopsis elata* from Cameroon, resulting in an effective suspension of imports. The grounds for this decision, which was based on a proposal from Belgium, were doubts as to the legal provenance of much of the timber being exported. This decision was reversed following consultation with Cameroon. The SRG was sufficiently reassured to allow imports to resume, pending the outcome of the Significant Trade process (O'Cruidain, in litt. 2003).

During 2002, various fines and withdrawal of permission to export have been imposed for activities relating to trade in *Pericopsis elata* in contravention with the provisions of CITES (MINEF, 2002).

**Central African Republic:** Provincial forestry agencies are responsible for granting permission for log exports and there is a general requirement for regional authorities to collect information on exports from the provincial agencies. There are reports that data collection is not functioning effectively (SGS, 2002). Most exports of timber and logs are via Cameroon and the CAR Government has contracted SGS to verify these exports (SGS, 2002).

**Congo:** The forest legislation of 2000 requires that greater priority be given to monitoring of exports. Responsibility will remain within the Direction Générale de L'Economie Forestière (DGEF) which has overall responsibility for administration of the forest sector but the office responsible is expected to be given greater autonomy (SGS, (2002).

**DRC:** No information.

**Ghana:** The export of logs of *Pericopsis elata* has been banned since 1979. Ghana introduced a general log export ban in 1995. There is an export levy of 30 percent on air-dried lumber exports for *Pericopsis elata*. The Timber Industry Development Division (TIDD) monitors the transport and utilization of logs and other wood products and timber exports.

**Nigeria:** The 1998 Timber Export Promotion Decree No. 1 prohibits the export of timber (whether processed or not) and wood in the rough form.

### 3.4 Monitoring

Monitoring of the provisions of forestry legislation varies within the range states of *Pericopsis elata*. A common feature identified by SGS, (2002) within Cameroon, CAR, Congo, DRC and Ghana is under-resourcing of the forest institutions which clearly has implications for monitoring and enforcement. Problems that have been identified include a significant proportion of log production not being monitored and recorded in Cameroon; severely limited resources for monitoring and recording production in CAR; lack of supervision and monitoring of forest operations in Congo, particularly in the north where most production takes place; and little or no field capacity to supervise or enforce regulations in DRC (SGS, 2002).

Limited information on monitoring of timber exports is included in Section 3.3. No details have been found on specific provisions for the monitoring of exports of *Pericopsis elata* by exporting countries.

### 3.5 Basis of non-detriment findings

In general the range states for *Pericopsis elata* have policies and legislation in place which could be used to regulate the harvesting of the species at appropriate levels for export in accordance with CITES. It is not clear, however, whether procedures are in place to make non-detriment findings.

Recently the SRG of the EU formed a negative opinion on imports of *Pericopsis elata* from Congo. The concerns related to the steadily rising quantities exported, without any accompanying indication that proper non-detriment findings were being made. On this occasion, they concluded that imports could not be allowed to continue unchecked except on the basis of adequate information from Congo or an endorsement by the Significant Trade review. The European Commission has consulted with Congo but has not received a reply (O'Cruidain, in litt. 2003).

#### 4. Overview of trade

As part of the Significant Trade process, a project carried out by WCMC, Review and improvement of national reporting for trade in plants listed in the Appendices of CITES looked at the data on timber species including *Pericopsis elata* for the years 1990 - 1994. A draft report was prepared for the first CITES Timber Working Group meeting held in November 1995. This report suggested that the Timber Working Group may wish to collect further information on procedures for reporting the timber trade, and in particular to seek further information from the Management Authorities in Cameroon, the Congo, DRC and Ghana.

##### 4.1 International trade

Exploitation for international trade began in 1948 with exports from Ghana. Ghana and Cote d'Ivoire were initially the main exporters. More recently Cameroon, Republic of Congo and DRC have become the main exporters for the international market. Ghana and Cote d'Ivoire continue to export small quantities, as does the Central African Republic. Exports of timber harvested from the Central African Republic are mainly exported via Cameroon and from DRC via Congo.

Volumes of trade are recorded in the CITES trade statistics and some information is recorded by ITTO, for example, export of 6000 m<sup>3</sup> of logs of *Pericopsis elata* from Congo in 1999 (ITTO, 2002). Subsequently no countries have included the species in their lists of species traded submitted to ITTO in their annual statistics (Johnson, in litt. 2003). Information on exports from individual countries is given below.

**Cameroon:** Cameroon has been the main country of export by volume for *Pericopsis elata* during the period 1993 to 2001 as recorded in the CITES trade statistics. A breakdown of the trade for this period is given in Table 2.

**Table 2 – CITES recorded trade in *Pericopsis elata* timber from Cameroon 1993 - 2001**

Country of import	1993 m <sup>3</sup>	1994 m <sup>3</sup>	1995 m <sup>3</sup>	1996 m <sup>3</sup>	1997 m <sup>3</sup>	1998 m <sup>3</sup>	1999 m <sup>3</sup>	2000 m <sup>3</sup>	2001 m <sup>3</sup>
Belgium	48	1175	313	1895	2338	4225	4096	2591	2960 + kg*
China					106	16	299		54
Cote d'Ivoire				26		39	9		
Cyprus					31				
Denmark	180			19*					27
France	756	911	865	1660	1499	680	2774	229	106*
Germany	59	343	58	60	29	281	142	24	Kg*
Ghana	179								
Greece		67			15	26	21		
Hong Kong			903	5948	2637	100	517	1207	21
Ireland			114	60					
Italy	3810	6411	3410	1778	5713	6669	8954	3146	3036*
Japan	5596	8712*	4253	3987	5493	770	866		
Lichtenstein	20								
Malaysia									19
Morocco	948	301	172			113	115	101	
Netherlands						15		57	
Portugal		19	37	26	43	328	28		

Singapore			2015	1709			76		
South Africa		68			15			54	
South Korea	31	12	13	22					
Spain		179		14	878	2239	85	85	
Sweden			52	17					
Switzerland	343	48		530	117		357	62	
Taiwan	155	2734	2875	7488	8105	3042	2400	15	
Thailand			1470	402					
Tunisia		108	72		78		85		
Turkey					109				
UK	881	1103	879	325	277	350	158	39	37
US		51	171	199	172	80	174	30	
XX						102	223		76
TOTAL	13006	22242	17672	26165	27655	19075	21379	7640	6230

Notes: Sawn wood and timber are the 2 terms given – these are combined in the above figures  
The figures are based mainly on export figures, except where the tallied import figures are higher and indicated with an \*

**Republic of Congo:** *Pericopsis elata* is one of the top four timber species currently of sufficiently high market value to be considered worth exploiting in the Republic of Congo (Maisels, 1996). Of the two main concessions, the one on the border with Cameroon (400,000 ha) is producing 5000 m<sup>3</sup> per year. This timber is exported via Douala in Cameroon. The second major concession of over one million ha is producing approximately 3800 m<sup>3</sup> per year. CITES trade data for exports from Congo is shown in Table 3.

**Table 3 – CITES recorded trade in *Pericopsis elata* timber from Congo 1993 - 2001**

Country of import	1993 m <sup>3</sup>	1994 m <sup>3</sup>	1995 m <sup>3</sup>	1996 m <sup>3</sup>	1997 m <sup>3</sup>	1998 m <sup>3</sup>	1999 m <sup>3</sup>	2000 m <sup>3</sup>	2001 m <sup>3</sup>
Belgium				105			549	570	333*
China							213	728	
Denmark	63		99	280				97	
France	181	139		777				390	669
Germany							60	68 +	228
Italy	1492	10965*	155	406*	451*		1362*	1912	1281*
Japan	131	83		146	1173*	39*	204	2257	2350
Malaysia				11					
Morocco			157						
Portugal			22						
Singapore					11 (re-export)				
Switzerland	454			318				107	
Taiwan			249	999			771		1794
Tunisia								64	217

Turkey				159					11
UK									65
XX				212					
TOTAL	2321	11187	682	3413	1635	39	3159	6193	6948

Notes: Sawn wood and timber are the 2 terms given – these are combined in the above figures. The quantities are based mainly on export figures, except where the tallied import figures are higher and indicated with an \*

**Central African Republic:** Exports of *Pericopsis elata* from Central African Republic are recorded in CITES trade statistics as shown in Table 4 below.

**Table 4 – CITES recorded exports of *Pericopsis elata* during the period 1993 - 2001**

Year	Country of import	Quantity
1995	Japan	20100 kg timber
	Taiwan	127610 kg timber 30 timber (no unit given)
1999	Taiwan	127610 kg timber

Within the country, harvesting of *Pericopsis elata* is reported to take place on the borders of Cameroon and Congo (Geert Lejeune, pers. comm. 2003).

**Cote d'Ivoire:** As a result of its rarity, *Pericopsis* is scarcely commercialized in Côte d'Ivoire either for the local or international trade. Between 1987 and 2002 the total volume of cut timber exported was estimated at around 160 m<sup>3</sup>, that is 26.6 m<sup>3</sup> per year (Kouame, in litt, 2003). CITES recorded trade data is shown in Table 5 below.

**Table 5 – CITES recorded exports of *Pericopsis elata* during the period 1993 - 2001**

Year	Country of import	Quantity
1995	Italy	20 m <sup>3</sup> sawn wood (reported by Italy)
2000	France	25 m <sup>3</sup> sawn wood (reported by Cote d'Ivoire)
	Italy	25 m <sup>3</sup> sawn wood (reported by Cote d'Ivoire)
2001	Italy	26 m <sup>3</sup> sawn wood (reported by Cote d'Ivoire & Italy)

**DRC:** Democratic Republic of Congo has been the second leading country of export by volume for *Pericopsis elata* during the period 1993 to 2001 as recorded in the CITES trade statistics. Details of the recorded trade are given in Table 6.

**Table 6 – CITES recorded trade in *Pericopsis elata* timber from DRC 1993 – 2001**

Country of import	1993 m <sup>3</sup>	1994 m <sup>3</sup>	1995 m <sup>3</sup>	1996 m <sup>3</sup>	1997 m <sup>3</sup>	1998 m <sup>3</sup>	1999 m <sup>3</sup>	2000 m <sup>3</sup>	2001 m <sup>3</sup>
Belgium	5086	2499	2593	3994	1234	1936	243		
Congo				2499	1033				
Finland				17					
France		157	262 *	472	726	37	140		83 *
Germany			251	116	74				
Hong Kong				97					

Indonesia				109					
Ireland	887								
Italy	9580	8533	20647	10907	14291 *	8393	3636		
Japan	1952	500		200	336 *				
Lebanon						10			
Morocco					50				
Netherlands			33	222		58			
Portugal			240	13	125	3 veneer	1302		
Singapore			61	1014					
South Africa	131	18		47					
Spain				235	252				
Sweden									
Switzerland	97	146		138		97			
Taiwan			936	1733	2090	767			
Tunisia				99					
Turks & Caicos Is						299			
UK			76	121 *?					
US					20				
Total	17733	11853	25099	22033	20231	11597	5321		83
Notes: Sawn wood and timber are the 2 terms given – these are combined in the above figures Quantities based mainly on export figures, except where the tallied import figures are higher and indicated with an *									

Fraudulent sale of wood from DRC to neighboring countries of Uganda, Rwanda and Burundi is referred to by Sébastien and Kiyulu N'Yanga-Nzo, 2001. This is also noted by Mianda-Bungi in litt 2003, with reference to *Pericopsis elata*. Logs produced in southern DRC are exported via South Africa and Tanzania (Global Witness, 2002b), but no details of the species involved are currently available.

**Ghana:** Historically Ghana has been a major exporter of *Pericopsis elata* but the trade is now relatively restricted as shown in Tables 7 and 8 below.

**Table 7 – CITES recorded trade in *Pericopsis elata* timber from Ghana 1993 – 2001**

Country of import	1993 m <sup>3</sup>	1994 m <sup>3</sup>	1995	1996 m <sup>3</sup>	1997 m <sup>3</sup>	1998 m <sup>3</sup>	1999 m <sup>3</sup>	2000 m <sup>3</sup>	2001 m <sup>3</sup>
Germany	30 5070 pieces		69 m <sup>2</sup>						
Italy	8654	8074	7666 m <sup>2</sup>			106 *	83 *	16 *	
Nigeria		32							
UK	1934		924 m <sup>2</sup>						

US	57								
Total	10675	8106				106	83	16	

Notes: Sawn wood and timber are 2 of the terms given – these are combined in the above figures as the units of measurement are the same. Where another term is used this is noted as with “pieces” – these may not be covered by CITES. The exports for 1995 probably refer to veneer – as m<sup>2</sup> is the appropriate unit of measurement for this.

The quantities are based mainly on export figures, except where the tallied import figures are higher and indicated with an \*

**Table 8 – Export data for *Pericopsis elata* provided by the Timber Industry Development Division of Ghana**

	1998 (volume m <sup>3</sup> )	1999 (volume m <sup>3</sup> )	2000 (volume m <sup>3</sup> )	2001 (volume m <sup>3</sup> )	2002 (volume m <sup>3</sup> )
Lumber	169.454	1218.224	16.108		
Machined products	147.675	135.844	81.328	26.282	226.452
Total	317.129	1354.068	37.436	26.282	226.452

Products exported during 2002 included sliced veneer and flooring, the latter is not covered by CITES.

**Nigeria:**

**Table 9 – CITES recorded trade in *Pericopsis elata* timber from Nigeria 1993 - 2001**

Country of import	1993	1994	1995	1996	1997	1998	1999	2000	2001
France			9390 pieces						
Italy		32	46977 pieces		17574 pieces				
Total									

Notes: Timber is the term given for the 1994 transaction. “Pieces” are unlikely to be covered by CITES as only logs, sawn timber and veneer sheets are regulated.

The quantities for 1995 are based on export figures. The quantities for 1994 and 1997 are based on both export and import figures which show an exact match in each case.

**Importing countries:** The main countries of import for *Pericopsis elata* by volume are shown in Table 10. The main end uses for afromosia in international trade are generally given as shipbuilding (rails and decks), furniture, decorative veneer, high-quality joinery, decorative flooring and shop fittings. In Europe the main current use appears to be for parquet flooring. Nine companies are known to process afromosia in Italy, the major country of import; two in France; two in Spain; and one in Germany and Portugal (Hewitt, in litt. 2003).

**Table 10 – Gross imports of *Pericopsis elata* for the period 1993 - 2001**

Country	1993 m <sup>3</sup>	1994 m <sup>3</sup>	1995 m <sup>3</sup>	1996 m <sup>3</sup>	1997 m <sup>3</sup>	1998 m <sup>3</sup>	1999 m <sup>3</sup>	2000 m <sup>3</sup>	2001 m <sup>3</sup>	Mean m <sup>3</sup>
Italy	23536	26051	24231	13902	20455	15169	14414	5099	3342	16154
Japan	7679	9294	4253	4332	8965	1528	10670	2257	2350	4636
Belgium	5134	3675	3150	5995	3571	6316	4888	3161	3292	4354
Taiwan	155	2734	4060	10219	10196	3809	3171	15	1794	4017

France	937	1207	1127	2908	2226	717	3054	644	859	1520
Hong Kong	0	0	904	6045	2637	100	517	1207	21	1270
UK	2815	1103	955	446	278	350	158	39	102	694
Singapore	0	0	2075	2723	0	0	76	0	0	541
Spain	0	179	0	249	1129	2239	85	85	0	441
Congo	0	0	0	2499	1033	0	0	0	0	392

A survey of timber merchants undertaken by TRAFFIC in South Africa in 1997 indicated that between 50 and 80 m<sup>3</sup> of *Pericopsis elata* were sold per year, figures which match reasonably well with those in Tables 2 and 6 above (Newton in litt., 2003).

#### 4.2 Domestic trade

No information is currently available on domestic trade in the range states. Local uses of *Pericopsis elata* include firewood, charcoal production, carpentry and traditional medicine (see section 2.3 above).

#### 5. Other relevant information, including on artificial propagation

It has been reported that management through controlled exploitation benefits the natural regeneration and population dynamics of *Pericopsis elata* primarily by creating forest gaps (ATIBT, 2001).

*Pericopsis elata* can be easily propagated from seed and from rooted stem cuttings. Selection breeding for plantation development has been undertaken in Ghana (Anon, 1979). *P. elata* has been successfully established on a small scale in both enrichment plantings (line and group methods) in Zaire and Ghana, and in taungya and direct plantations in Ghana (Howland, 1979). Plantation trials in Côte d'Ivoire have shown growth to around 20 cm in diameter after 20 years. (Kouame, in litt. 2003). Growth trials undertaken in Nigeria have shown that the rate of growth was medium but sapling growth was extremely branched and crooked so that satisfactory intermediate yields were not provided. Furthermore the coloured resistant heartwood is valuable rather than the pale sapwood. These factors militate against the use of the species in timber plantations because the economics of plantation forestry depend considerably on sale of material early in the rotation (Lowe, in litt. 2003).

#### ACKNOWLEDGEMENTS

The following are thanked for providing information used in this report: Alexandre Affre, TRAFFIC Europe; Alhassan Attah, Ghana Timber Industry Development Division; O'Cruidain, European Commission; James Hewitt; Steve Johnson, ITTO; Mr Kouame, CITES Authority of Côte d'Ivoire; Geert Lejeune, WWF Belgium; Richard and Joyce Lowe; Noel McGough, Royal Botanic Gardens, Kew; Ndjele Mianda-Bungi, Université de Kisangani, DRC; Tunde Morakinyo, Iroko Foundation; David Newton, TRAFFIC Southern Africa; Daniel Otu, Cross River State; Meriel Robson, Woodmark; Renaat van Rompaey, visiting professor at Brussels and Eberswalde Universities; Paul Vantomme, FAO; Tieme Wanders, FORM Ecology Consultants; Stuart Wilson, Forests Monitor.

Association Technique Internationale des Boix Tropicaux (ATIBT) kindly made available for this study information compiled on *Pericopsis elata*. Jean Jacques Landrot and Steven Speed are sincerely thanked for providing this information and for suggesting additional experts for consultation. John Caldwell kindly provided outputs from the CITES Trade Database maintained by UNEP-WCMC.

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