

AMENDMENTS TO APPENDICES I AND II OF THE CONVENTION

Other Proposals

A. PROPOSAL

Inclusion of *Dalbergia melanoxylon* in Appendix II of CITES.

B. PROPONENT

The Republic of Kenya and the Federal Republic of Germany.

C. SUPPORTING STATEMENT

1. Taxonomy

11. Class: Dicotyledonae

12. Order: Fabales

13. Family: Leguminosae

14. Genus: *Dalbergia* L.f.

Species: *Dalbergia melanoxylon* Guillemin & Perottet

15. Common Names: English: African Blackwood, African Ebony, Cape Damson, Grenadilla, Mozambique Ebony
French: Ebène d'Afrique
Spanish:
Kenya: Mpingo, Kikwaju, Mboranguluwe, Samachi, Mwengo, Mvingu
Sudan: Babanus, Tareh, Rit, Funiti, Faiti, Chella, Rugbe, Begboio, Did, Red, Lurr, Bokango, Shami
Tanzania: Mpingo, Mhingo, Kidamo, Mgembe
Uganda: Mufunjo, Motangu, Poyi
Zimbabwe: Mufulamba, Mugweze, Muhati, Mukelete, Mumbeze, Musukachama, Mutsonga
Other: Chilutsu, Mukudziti, Mumhingwe, Munhowe, Murwiti, Umbambangwe

16. Code Numbers:

2. Biological Data

21. Distribution: Indigenous populations are recorded in: Angola; Botswana; Central African Republic; Chad; Cote d'Ivoire; Ethiopia; Burkina Faso; Kenya; Malawi; Mozambique; Nigeria; Senegal; South Africa; Sudan; United Republic of Tanzania; Uganda; Zaire; Zimbabwe (Lock 1986). The species has also become naturalized in Kanara, India (Brandis 1907), and possibly elsewhere in Asia.

Angola: Recorded from Cuando in Cubango (Conspectus Florae Angolensis 1962-66).

Ethiopia: Recorded at 600-1,900 m in Eritrea West, Tigray Upland and Gonder (Begemdir) near the Sudan border (Thulin 1983). Some of this is now Eritrea.

Kenya: Scattered in low altitude savanna and woodland below 1,300 m (Noad and Birnie 1989).

Malawi: The species is widely distributed in Malawi and is commonly found in clay type soil, a feature of the lowland areas found in many parts of Malawi (Mulolani *in litt.* to N. Marshall 1994).

Mozambique: Recorded from the Rio Save to the North, on the coastal plains as well as upland areas (Gomes e Sousa 1967).

Nigeria: Occurs in the northern part, with records from Kano, Bauchi, Bornu and Adamawa (Keay *et al.* 1964).

Sudan: Occurs in patches along the savanna belt which extends from the Blue Nile Province, South Kordofan Province and South Darfur Province northwards up to the foot of the Jebel Marra.

United Republic of Tanzania: Occurred mainly in the central thorn-brush country (Brenan and Greenway 1949) but following severe decline now reported as most frequent in mixed deciduous forests and savannas of the coastal region (Nshubemuki 1993).

Uganda: Found in Bunyoro, West Nile, Madi, Acholi, Karamoja and Mbale Districts (Eggeling and Dale 1968), limited to areas of low elevation, i.e. below 1,000 m (Eggeling and Harris 1939).

Zaire: Known from Kasai, Lake Albert and Haut-Katanga (Flore du Congo Belge et du Rwanda-Burundi 1954).

Zambia: Occurs in the southern and eastern half of the country, comprising Western, Southern and Eastern Provinces, the southern half of Central Province and parts of Mpika, Chinsali and Isoka districts (Storrs 1979).

Zimbabwe: The species is widespread and common in Zimbabwe (Muller *in litt.* to C. Kabuye 1994).

22. **Population:** Most sources indicate that the species is now scattered in occurrence and not abundant, although it was recorded as fairly plentiful in the United Republic of Tanzania in the 1930s (Grant 1934). In the 1960s it was recorded as being rare due to intensive exploitation, whereas it had previously been abundant in Mozambique (Gomes e Sousa 1967). Hall (1988) notes that the species has been depleted rapidly in the United Republic of Tanzania and that there is little regeneration. Populations in the United Republic of Tanzania have continued to be depleted by over-exploitation and inadequate control of fires (Read 1993). The species is now considered endangered in the United Republic of Tanzania (Sumbi, *in litt.* to Mike Read Associates, 1994). Estimates have suggested that no more than 20 years supply remains in the United Republic of Tanzania and loggers are having to travel upon to 200 km to find large trees to harvest. Katende (*in litt.* to C. Kabuye, 1994) notes that in Uganda its occurrence is high in areas such as Butyaba, Packwach, Moyo and Ajumani, but that exploitation has reduced its numbers in some regions. In Kenya, demand for the wood carving industry has contributed to increasing scarcity (Noad and Birnie 1989). In the Sudan, the species is considered threatened and its

range is retreating southwards due to exploitation for fuelwood, furniture, and carvings (Hashmin *in litt.* to C. Kabuye 1994).

23. Habitat: Occurs mainly in deciduous woodland, wooded grassland and bushland, often in very dry, rocky areas (Eggeling and Harris 1939) and usually below 1,000 m, although it has been recorded at up to 1,900 m in Ethiopia (Thulin 1983). Nshubemuki (1993) records the species as most frequent in mixed deciduous forests and savannas of the coastal region. The mean minimum temperature in its native range is 18°C and the maximum 35°C with no frost. Annual rainfall averages 700 mm to 1200 mm, often distributed on a bimodal pattern of three to six months. Soils vary from loamy sands to clayey vertisols ('black cotton soils'). The species is water and light demanding and is more common near water and will not regenerate under heavy cover.

3. Trade Data

31. Utilization and Economic Importance: *Dalbergia melanoxyton* has been a highly prized species for well over a hundred years, particularly for timber and carvings (Hall 1988), although it is also valued for its medicinal qualities (Gelfand *et al.* 1985; Kokwaro 1976; Oliver 1871; Storrs 1979, Nshubemuki 1993). This species is also an important wood used by the world famous Makonde School of Wood Carvers (UNEP - 1988). The tree takes approximately 70 years to reach a great enough size to produce timber suitable for carving or musical instrument manufacture, which are the primary uses (Mafethe, P., *in litt.* to Mike Read Associates).

The timber is described as the most valuable originating in East Africa (Eggeling and Dale 1968; von Breitenbach 1960) The timber is hard, heavy, close-grained and of fine texture, and polishes extremely well. It is considered to be one of, if not the finest, of all woods for turning and is in particular demand for the manufacture of musical instrument, particularly woodwind. However, The tree is generally small, slow-growing and often irregularly shaped (both in branching pattern and in transverse section of the bole), usually less than 7 m tall, although capable of reaching 18 m (National Academy of Sciences 1979; Storrs 1979). Large, straight pieces are therefore very rare. Generally only the best parts of the heartwood are suitable for export with up to 90% being discarded. The timber requires slow, careful seasoning. Drying often takes over three years and is usually satisfactory, although some heart-shake appears inevitable (Chudnoff 1984; von Breitenbach 1960).

In the 1930s it was noted heart squares of up to 10 inches (25 cm) across were obtainable but uncommon and the average heart square was 5-8 inches (13-20 cm) in lengths of 2-5 feet (0.6-1.5 m) (Grant 1934). The average diameter at breast height (dbh) is less than 38 cm. Although trees have been found with a dbh of more than 60 cm (Nshubemuki 1993). Its use is therefore largely confined to small products. Apart from musical instruments, it is mainly used for carving, walking sticks, back-sticks and inlay work (Marshall and Jenkins 1994) as well as pestles, combs, knife shafts cups, farming implements (Nshubemuki 1993) and chess pieces. In the Sudan, the species is apparently an important material for building construction and or making beds (Hashim *in litt.* to C. Kabuye 1994). Its use in the production of fuelwood and charcoal has also been reported (Nshubemuki 1993).

In Europe, exported timber is usually traded via Germany, Spain and France. It is available in the US where round logs fetch up to \$ 18,000/cubic metre (Nshubemuki 1993) and the UK where it sells for c. £ 24.80/kg (Read, pers comm). The timber has been in great demand for generations for woodwind instruments as well as for decorative carved items. There are generally considered to be few or no alternatives for its use in woodwind instruments. In the UK Kingwood (probably *Dalbergia cearensis* from Brazil) has been tested

for clarinet manufacture but with only limited success. However as early as 1956 the problem of obtaining adequate supplies from the United Republic of Tanzania was becoming acute and the situation has steadily worsened. While the Tanzanian Government has a reforestation policy and small nurseries have been started by the Tanzanian Wildlife Society and commercial interests, severe problems remain, particularly with increasingly frequent and uncontrollable fires. Read (1993) suggested that the income derived from export trade is likely to be jeopardized - along with the trees and their habitats - if swift action is not taken to protect the remaining populations. One Spanish importer (Barber *in litt.* to Fauna and Flora Preservation Society, 1994) has reported that as supplies in the United Republic of Tanzania continue to dwindle, the trade is increasingly switching to remaining populations in Mozambique.

32. Legal International Trade: In 1979 it was recorded that export mainly took place from "East Africa" and Mozambique (Storrs 1979). Tanzanian exports (1980-1991) are given here. [Hakan Sjöholm *in litt.* to Judy Oglethorpe (KIFCON) 7 July, 1993]. The figures are for actual exports based on the return of the export documents from Customs.

YEAR	QUANTITY (M ³)	VALUE (USD)
1980	83.37	830745
1981	52.75	220471
1982	48.69	24343
1983	39.44	168257
1984	30.02	106688
1985	29.99	292895
1986	24.4	246734
1987	43.05	528620
1988	47.19	677332
1989	35.12	435099
1990	39	508348
1991	38	527376

Destination (countries of import): Europe and USA

However, exports of all unworked hardwood timber from the United Republic of Tanzania were banned in 1993. Moore and Hall (1987) state that in addition to sets for musical instruments, 'Makonde' wood carvings are exported from the United Republic of Tanzania to Europe, Japan, North America and other African countries. Severre (*in litt.* to Kabuye, 1994) states that processed products are allowed for export. Kenya exports *Dalbergia melanoxylon* as carvings. Carvings are also popular souvenir items purchased by tourists. Katende (*in litt.* to C. Kabuye 1994) report that the species is not exported from Uganda, but that if demand increases in Kenya, exports could start. (There are reports of unquantified exports of carvings from Uganda to Kenya). In the Sudan, wood carvings and logs were exported in large quantities to the Middle East, but exports have been halted by ministerial decree due to the threatened status of the species in the Sudan (Hashim *in litt.* to C. Kabuye 1994). However, there are no regulations prohibiting the export of natural dead wood in the form of manufactured products, and since there is a lot of dead *Dalbergia melanoxylon* in the country, numerous requests have been made for export. Permission has not been granted because the high profits to be gained might stimulate felling of live trees (Nour *in litt.* to C. Kabuye 1994). Export of carved items have taken place from Malawi to South Africa but recently this has been difficult to find as a result of depletion, slow regeneration and habitat loss (TRAFFIC/Mulolani, *in litt.* to N. Marshall).

33. Illegal Trade: It is considered likely that *Dalbergia melanoxylon* is imported illegally to Kenya from the United Republic of Tanzania, (Marshall and Jenkins 1994). *Dalbergia melanoxylon* has been observed in Voi, Kenya, and has been harvested illegally from the nearby Tsavo East National Park and Tsavo West National Park. Sumbi (*in litt.* to Mike Read Associates, 1994) reports on frequent illegal felling and national trade in the United Republic of Tanzania and occasional illegal international trade. UNEP (1988) notes that illegal felling in the United Republic Tanzania is constant and that much of the material is smuggled out of the country.
34. Potential Trade Threats: Harvesting of timber for musical instrument sets requires trees of certain diameter, availability of which is declining rapidly. Moreover regeneration in natural areas is minimal or non-existent due to fire. At the same time, the tree is a slow grower taking 70 years or more to reach harvestable maturity.

In Kenya and elsewhere, over-exploitation for trade in carvings has already made the species so rare that this has necessitated importation from other countries. The trade needs to be controlled so as to reduce the threat to the species.

341. Live Specimens: None.

342. Parts and Derivatives

- a) Blocks of musical instruments sets from the United Republic of Tanzania.
- b) Carvings from all range States.

4. Protection Status

41. National: There is a presidential ban on logging of indigenous timber in Kenya which applies to Forest Reserves and other government land. In the United Republic of Tanzania the species is among 22 national reserved species for which trade and felling licences are required from the Director of Forestry and Beekeeping. However, Sumbi (1994) reports that illegal felling and trade are prevalent.
42. International: No international protection in place.
43. Additional Protection Needs: Control of fires would appear to be an important component of conservation measures, especially in Uganda (Eggeling and Harris 1939) and the United Republic of Tanzania (Mugasha 1983, Read 1993) where it is reported that fires severely affect regeneration. Scott (1934), reported in Eggeling and Harris, indicated that experiments in fire protection showed that just two years of protection allowed for rapid development of young regeneration. Mature trees are fire tolerant (Nshubemuki 1993). However heart rot in some logs has been linked with fungal infection following fire damage.

There are indications that mechanised farming is also preventing regeneration in the Sudan (Hashim *in litt.* to C. Kabuye, 1994).

5. Information on Similar Species

There are approximately 100 species of *Dalbergia*, of which maybe half produce valuable timber. However, the timber of *Dalbergia melanoxylon* is exceptionally hard, heavy and dark and in some respects even resembles true ebonies (*Diospyros* spp.) although it is not as uniformly black as true ebonies, having paler streaks of brown or purple.

6. Comments from Countries of Origin

Malawi: Support for an Appendix-II listing is given due to the threatened status of the species and extensive over-exploitation.

South Africa: The Chief Directorate of Nature and Environmental Conservation of the Transvaal Provincial Administration reports that the species is not over-exploited in South Africa, but due to extensive use in neighbouring countries, an Appendix-II listing is justifiable.

Uganda: Although *Dalbergia melanoxylon* is not over-exploited in Uganda, harvest might increase due to demand from Kenya. Even so, the species is not over-exploited at present and its status is stable (as unquantified carvings have been observed across the border into Kenya, the assumed stability may not be for much longer).

Zimbabwe: The species is widespread in the country. Exports to Europe were attempted about ten years ago, but it was found that the wood was not of the desired quality. While the species is exploited for carvings, it produces fruits before it reaches a harvestable size. Therefore, on this basis, in the case of Zimbabwe, an Appendix-II listing is not considered justified.

United Republic of Tanzania: Although there is a ban on export of logs, there is export of processed products. The matter on listing is being considered.

7. Additional Remarks

7.1 The proposal is made under Article II, paragraph 2(a).

7.2 Plantations: There are no plantations of the species in Kenya. In the Sudan, it has been noted that the seed of the tree is easy to germinate after soaking in distilled water for 13 days (93% germination), but is difficult to establish in the field. Growth characteristics of this species have not yet been studied (Hashim *in litt.* to C. Kabuye 1994). There has been research into the silviculture of *Dalbergia melanoxylon* in the United Republic of Tanzania (Mugasha 1983; Nshubemuki 1993b) but the species has not been planted extensively. Nshubemuki (1993) reports that the species is not gregarious and may be difficult to establish in pure plantations. Moreover, rapid loss of seed viability might also make it difficult to establish plantations in new areas.

8. References

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