

Inclusion of *Pterocarpus erinaceus* in Appendix II, without annotation

Proponents: Benin, Burkina Faso, Chad, Côte d'Ivoire, European Union, Guinea, Guinea-Bissau, Mali, Nigeria, Senegal and Togo

Summary: *Pterocarpus erinaceus* is a slow growing, medium sized, generally deciduous tree found in open forest and wooded savannah in Sub-Saharan West Africa, with a broad distribution including Burkina Faso, Cameroon, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Mali, Niger, Nigeria, Senegal, Togo and possibly Central African Republic, Chad, Liberia and Sierra Leone. It is a pioneer species, readily colonising fallow land, and is drought tolerant once established. It regenerates quickly after coppicing and is reasonably resistant to fire, usually surviving the yearly savannah bush fires. The species can mature at around 5cm stem diameter¹. It is an important species ecologically due to its atmospheric nitrogen fixing properties which may improve soil fertility.

Population studies undertaken show that average tree density varies widely: in Burkina Faso, Niger and Togo it ranges from 1.17 ± 0.75 trees/ha to 110.9 ± 1.15 trees/ha^{2,3}, with average stem diameter ranging from ca. 25cm to ca. 50cm. It has been observed that many mature trees remain in Sierra Leone: in the 100km² around Lake Sonfon in Sierra Leone there are an estimated total of 500,000 - 1 million individual trees¹, and trees here are of a larger average size than those observed in Burkina Faso⁴.

The species is of high socio-cultural importance in the region and is widely used locally in construction and furniture making, as medicine, for musical instruments, charcoal, dyes and fodder for livestock.

The species has been heavily exploited for international trade in recent years with nearly all recorded trade going to China. It is amongst the species classified under China's Hongmu Standard, a list of 33 species, including *Pterocarpus* spp., *Dalbergia* spp., *Diospyros* spp., *Millettia* spp. and *Cassia* spp., whose density, texture and colour match the requirements for the manufacture of luxury Hongmu furniture. Recorded Chinese imports of logs increased from ca. 3000 m³ in 2009 to 700,000m³ in 2014⁵. A typical yield of 0.8m³ is estimated for a relatively large (50cm dbh) tree⁶, so that reported imports to China in 2014 would have required the harvesting of nearly 900,000 large trees.

The species has been protected under forest law in most range States, in some cases since 1996, due to concerns about failing population management and unsustainable use. There are total export bans in at least seven range States. Recommended average felling diameter ranges from 35-65cm. However, there is little evidence of forest management plans in place for this species, or of effective controls regulating national use or international trade. In some countries only specimens of ca. 30 cm stem diameter or over are being logged, but in others, for instance Benin, Burkina Faso, Ghana and Côte d'Ivoire trees of a smaller stem diameter are also targeted⁷. Logs of this species are widely available on the internet, in any quantity requested, and shipped from ports in countries with export bans in place.

In order to ensure the listing covers those parts of the species that first enter or dominate the international market (and as listings with annotations may be circumvented, for instance #5 by minimal working of the wood prior to export) the proposal is without annotation.

Analysis: *Pterocarpus erinaceus* is a tree species which it is harvested for timber and has a number of other local uses. There is evidence of rapid increase in export of timber from range States in the past six years largely to meet demand in China for Hongmu timber used in furniture-making. A proportion of this export, possibly the majority, appears to be unauthorised or illegal. The species is widespread and adaptable and may be at least locally abundant. It may also mature at a size considerably smaller than that at which it is harvested for timber. The current level of harvest for timber is likely to be unsustainable, in that it almost certainly exceeds the rate at which harvestable-sized trees are being replenished in the population, but it seems unlikely that regulation of trade is required to prevent the species from becoming eligible for inclusion in Appendix I in the near future, or that regulation of trade is required to ensure that harvest of specimens is not reducing the population to a level at which its survival might be threatened.

Reviewers: C. Duvall, C. Hin Keong and S. Oldfield.

References:

Information not referenced in the Summary section is from the Supporting Statement.

¹ van der Burgt, X. (2016) *In litt.*, to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.

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- ² Novinyo, S.K., Kossi, A., Habou, R., Raoufou, R.A., Dzifafa, K.A., Andre, B. B., Ali, M., Sokpon, N. & Kouami, K. (2014) Spatial Distribution of *Pterocarpus erinaceus* Poir. (Fabaceae) Natural Stands in the Sudanian and Sudano-Guinean Zones of West Africa: Gradient Distribution and Productivity Variation across the Five Ecological Zones of Togo. *Annual Research & Review in Biology*, 6: 89-102.
- ³ Segla, N.K., Rabioub, H., Adjonoua, K., Moussad, B.M., Saleyb, K., Radjia, R.A., Kokutsea, A.D., Bationoc, A. B., Mahamaneb, A. & Kokoua, K. (2016) Population structure and minimum felling diameter of *Pterocarpus erinaceus* Poir in arid and semi-arid climate zones of West Africa. *South African Journal of Botany*, 103:17-24.
- ⁴ Balinga, M. (2016) *In litt.*, to the IUCN/TRAFFIC Analyses Team, Cambridge, UK
- ⁵EIA (2016) The Hongmu Challenge: A briefing for the 66th meeting of the CITES Standing Committee. <http://www.illegal-logging.info/content/hongmu-challenge-briefing-66th-meeting-cites-standing-committee>. Viewed June 2016.
- ⁶ Duvall, C.S. (2008) *Pterocarpus erinaceus* Poir. [Internet] Record from PROTA4U. Louppe, D., Oteng-Amoako, A.A. & Brink, M. (Editors). PROTA (Plant Resources of Tropical Africa / Ressources végétales de l'Afrique tropicale), Wageningen, Netherlands <http://www.prota4u.org/search.asp>. Viewed June 2016.
- ⁷ Tosso, F. (2016) *In litt.*, to the IUCN/TRAFFIC Analyses Team, Cambridge, UK.