CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES
OF WILD FAUNA AND FLORA

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Interpretation and implementation of the Convention

Species trade and conservation

REPORT OF MADAGASCAR ON PROGRESS IN IMPLEMENTING THE "ACTION PLAN FOR *DIOSPYROS* SPP. AND *DALBERGIA* SPP."

1. This document has been submitted by the Plant Scientific Authority of Madagascar.*

2. The table below summarizes the progress made by Madagascar in the implementation of Action Plan following the inclusion of the Madagascar populations of *Diospyros spp*. and *Dalbergia spp*. in CITES Appendix II. Some stages have been initiated, for example in the area of preparation and formulation of non-detriment findings and identification of wood.

3. However, a number of tasks remain to be carried out in order to enable the Malagasy authorities to issue non-detriment findings and determine export quotas as soon as possible. Likewise, much remains to be done in terms of monitoring and assessment of standing stocks of precious woods, despite the promulgation of Decree 2010/141 of 24 March 2010 prohibiting the cutting, use and export of rosewood and ebony in Madagascar. The implementation of the Action Plan requires technical and financial resources, together with the great willingness of all stakeholders.

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* *The geographical designations employed in this document do not imply the expression of any opinion whatsoever on the part of the CITES Secretariat (or the United Nations Environment Programme) concerning the legal status of any country, territory, or area, or concerning the delimitation of its frontiers or boundaries. The responsibility for the contents of the document rests exclusively with its author.*

Progress of Madagascar in the implementation of the CITES Action Plan on the *Dalbergia* and *Diospyros* species of Madagascar.

Action Plan	Progress of Madagascar[2]	Comments
1. Establish, in collaboration with the CITES Secretariat, a science-based precautionary export quota for the listed taxa and for those where an adequate non-detriment finding can be undertaken and clearly documented for any species planned for export;	Development of a method to estimate potential of wood through cartography and satellite images (International Tropical Timber Organization Project, 2013).	The results obtained on the bio-ecological characteristics of the inventoried species have made it possible to determine the health status of existing populations. Of the 37 species studied (13 species of *Dalbergia* and 24 species of *Diospyros*) only the populations of 5 species of *Diospyros* have a good general population status). The majority of the species have no individuals for regeneration, and there is a very high risk of these species disappearing. This study constitutes an important scientific basis for the quantification of standing stocks, however these 37 species are far from being representative of the species that may be subject to exploitation; several more production areas should still be assessed.
	Acquisition of available scientific data on the populations of *Diospyros* spp. and *Dalbergia* spp. (MBG Madagascar, 2014)	The formulation of non-detriment findings and the establishment of a precautionary quota assume the prior establishment of a process (for information analysis, collection and research) in order to identify the main species susceptible to being exported. The *Dalbergia* species are not all trees, there are also exclusively shrub species. Among the 43 species of tree, 25 are of minimum exploitable diameter. More species of minimum exploitable diameter occur in a humid bioclimate than in dry bioclimates. Approximately one third of species of minimum exploitable diameter are not demanding in terms of bioclimate, as they can be found both in humid and dry bioclimates. More than 80 per cent of species of minimum exploitable diameter belong to the threatened categories (Critically Endangered, Endangered and Vulnerable). Out of the 86 species described, which is 40 per cent of the *Diospyros* species of Madagascar, approximately 50 are of minimum exploitable diameter. Seventy five per cent of threatened according to the International Union for the Conservation of Nature Red List (Critically Endangered, Endangered and Vulnerable). Currently, 115 new species are recognized by specialists.

		Nevertheless, the biological and ecological information on the majority of species is insufficient for the establishment of a quota. The same applies for available quantitative data on removal and trade.
	Strengthening the capacities of the Management Authority and the Plant and Animal Scientific Committees and Authorities of Madagascar on non-detriment findings (CITES Secretariat, 2013).	Study of *Pachypodium brevicaule* activity through the collection of qualitative and quantitative data in its natural habitat, followed by analysis of available data up to the establishment of a quota.
	Workshop to assess scientific findings on species of precious woods in Madagascar with a view to preparing non-detriment finding (TRAFFIC, 2014)	The guide on non-detriment findings developed by the International Union of the Conservation of Nature was used to assess: the general aspects of the biology of the species; management; information on management history and planning; sample management; the status of the land from which the samples were taken; sampling monitoring capacities; and the advantages and risks of sampling. Assessment of standing stocks and research on in situ and ex situ multiplication of species are the activities that should be prioritized.
2. Establish, as needed, and with key partners an identification process (research, information gathering and analysis) to identify the main species vulnerable to being exported.	<u>Taxonomy</u> Phylogeny and taxonomic review of species from the *Diospyros* genus by specialists: Pete Lowry (National Museum of Natural History, Paris) George Schatz (Missouri Botanic Garden, Missouri)	Taxonomic review began in 2010. *Diospyros* is a complex genus, and seven independent groups have been identified. Scientific publications on the morphological identification criteria are in progress.
3. Collaborate, as needed, and with key partners, to prepare identification material and tests for use in CITES enforcement to identify main taxa as they are traded;	<u>Wood identification</u> Phylogeny and molecular analysis (DNA barcoding) of the *Dalbergia* species of Madagascar by a team from the University of Zurich, Alex Widmer and Sonja Hassold, (Swiss Federal Institute of Technology in Zurich, 2014).	Ten species of *Dalbergia* mainly in the Masoala region were the subject of DNA analyses Scientific publications on the wood characteristics are under development. Some equipment for molecular analysis have been donated by Prof Lukas Kühn of the University of Lausanne to equip the laboratory of the Department of Plant Biology and Ecology of the University of Antananarivo in order to continue the analyses in Madagascar.
	<u>Wood identification</u> Publication of the first atlas based on the anatomical features of the wood of 19 species from the *Dalbergia* genus and 31	One sample of wood per species of the 19 *Dalbergia* species and 31 *Diospyros* species are described macroscopically and microscopically. The results are more convincing and make it possible to consider identification at the species level.

	from the *Diospyros* genus (Harisoa Ravaomanalina, Swiss Federal Institute of Technology - Swiss Federal Institute for Forest, Snow and Landscape Research Zurich, 2014).	However, an in-depth analysis with more repeat samples per species, together with an extension to include more species should also be carried out in order to validate the identification keys already proposed. Some equipment for anatomical study has been received from the Swiss Management Authority, the Swiss Federal Institute of Technology in Zurich and the Swiss Federal Institute for Forest, Snow and Landscape Research to ensure the continuation of analyses at the University of Antananarivo. A research fund from the International Tropical Timber Organization has been acquired for the continuation of two molecular and anatomical identification methods in order to produce reliable wood identification and to distinguish between legal and illegal woods. The signing of the contract is underway.
	Establishment of a collection of reference materials in the form of herbariums and woods well documented and identified by experts on the *Dalbergia* and *Diospyros* species of Madagascar. (WWF Madagascar, 2012) (International Tropical Timber Organization, 2013)	The International Tropical Timber Organization project has enabled the sharing of specimens of *Dalbergia* wood for chemical analysis (Ed Espinoza, National Fish and Wildlife Service Forensics Laboratory, United States of America, 2014). As a result of the workshop in Hamburg (June 2014), a platform comprising researchers working on *Dalbergia* and *Diospyros* species of Madagascar was create in order to coordinate specimen exchange for the different methods of identification used.
6. Provide reports on progress in the implementation of the action plan to the Secretariat and Plants Committee, in compliance with document deadlines for meeting of that Committee	Funding of travel and accommodation costs for a member of the Plant Scientific Authority for the twenty-second meeting of the Plants Committee.	