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

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OUTPUTS AND POSSIBLE FUTURE ACTIVITIES OF THE CITES TREE SPECIES PROGRAMME

1. This document has been submitted by the Secretariat in relation with agenda item 19 on CITES and forests and item 20 on the CITES Tree Species Programme (CTSP).

2. The document provides a very brief overview of the outputs produced by the country projects funded under the CTSP. Implementation of all projects has recently been completed and a closing workshop took place in Kuala Lumpur, Malaysia from 5-7 October 2022. All outputs are available on the CTSP website (www.cites-tsp.org), which also features short videos produced by each of the projects. A selection of the outputs will be translated into the other CITES working languages for wider distribution.

3. The document also provides some conclusions and recommendations for possible future activities under a new phase of the CTSP or a similar programme.

Africa

Title of project (English/French)	Country	Project goal and objectives	Outputs produced	Conclusions and possible future activities
Action plan and capacity-building for sustainable management of *Pterocarpus erinaceus* in Benin, Nigeria and Togo Plan d'action et renforcement des capacités pour la gestion durable de *Pterocarpus erinaceus* au Bénin, au Nigéria et au Togo	**Benin, Togo, Nigeria**	Goal: Contribute to the conservation of the biodiversity in West Africa by ensuring sustainable management and legal, traceable and fair trade of *Pterocarpus erinaceus.* Specific objectives: 1. Raising awareness of rural communities and privates sector stakeholders on the necessity of sustainable management of *P. erinaceus*; 2. Capacity-building of the stakeholders on sustainable management of the species; 3. Development of an action plan	1. Status on management, harvesting, processing, and control of *Pterocarpus erinaceus* established for the three countries. 2. Action plan comprising 21 activities and four pilot projects for Benin and production of an action plan for Togo	The project is completed since September 2020. The project encountered many difficulties and delays in Nigeria. A follow-up project for Benin and Togo was initiated in December 2021 (See next project)
Capacity-building for the development of non-detriment findings on *Pterocarpus erinaceus* (Fabaceae) in Benin and Togo Renforcement des capacités pour l'élaboration d'un avis de commerce non préjudiciable sur *P. erinaceus* (Fabaceae) au Bénin, et Togo	**Benin, Togo**	Goal: Contribute to the conservation of the biodiversity in West Africa by ensuring sustainable management and legal, traceable and fair trade of *Pterocarpus erinaceus.* Specific Objectives: produce an NDF for the species in the two countries	1. NDF for *Pterocarpus erinaceus* (Fabaceae) produced for Benin and Togo; 2. Management plan produced for the species in the two countries as well as ideas for future projects 3. Awareness raising activities carried out	The effective implementation of CITES is limited by the lack of knowledge of the conservation status of the resources. The project has allowed the two countries to try for the first time the elaboration of NDF documents for *P. erinaceus* Future activities include the continued capacity building actions for carrying out inventories and developing NDFs
Capacity-building of stakeholders for sustainable management of *Prunus africana* in Burundi Renforcement des capacités des parties prenantes en vue d'une	**Burundi**	Goal: contribute to conservation of *Prunus africana.* Specific objectives: 1. Conduct socioeconomic study on *Prunus africana* in villages surrounding the Kibira national park (KNP);	1. Report on socioeconomic assessment of *Prunus africana* in villages surrounding the Kibira national park (KNP) and the Bururi natural forest reserve; 2. Report showing the reaction of *Prunus* trees to harvesting activities conducted in 2013 and 2014 established;	Conclusions: 1. *Prunus africana* is well distributed in the two surveyed KNP sectors, on either side of the Congo Nile ridge: TEZA and MUSIGATI; 2. The three sites that were covered by the 2013, 2014

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gestion durable de prunus africana au Burundi		2. Assess the reaction of Prunus trees exploited in 2013 and 2014; 3. Conduct forest inventories 4. Raising awareness of the communities, distribute Prunus seedlings in different villages and generate their interest in producing *Prunus africana* trees 5. Develop a simple management plan and NDF for the species in KNP	3. Forest inventories conducted in the third part of the Kibira national park 4. Local communities in villages surrounding the KNP trained in *Prunus* nurseries and plantation; 5. 120 000 seedlings of *Prunus* distributed in 12 hills distributed in two pilot areas: surrounding the KNP; 6. Five awareness-raising workshops organized in 12 hills surrounding the KNP. 7. The local CITES Scientific authority (OBPE and University of Bujumbura) trained through on drafting Prunus simple management plan (SMP) and non-detriment findings (NDF) based on results of forest inventories; 8. A simple management plan (SMP) for *Prunus africana* in the Kibira national park developed with guidelines for sustaining *P. africana* in the KNP; 9. NDF report for *Prunus africana* in the KNP completed and validated at a workshop	and 2020 inventories total an area of 11,158.89 ha, or 28% of the southern KNP zone in the TEZA and MUSIGATI sectors; 3. The *Prunus africana* quota to be harvested from the three sites on a sustained basis is estimated at 44.07 tonnes of dry bark per year, Perspectives for the future: 1. Refine the management parameters and extend the inventories in the rest of KNP and the Bururi Forest Nature Reserve 2. Need to control the factors influencing bark reconstitution: explanation of excessive standard deviations (5-100% bark reconstitution after 6.58 years) 3. Provide support for the implementation of the guidelines on the management plans 4. The number of seedlings distributed was not enough to satisfy the requests of all villages. The Burundi Office for protection of environment (OBPE) would like to extend this activity in other councils including those surrounding Bururi natural forest reserve.
Action plan and updating non-detriment findings for sustaining Prunus africana (Rosaceae), a	**Cameroon**	Specific objectives 1. Status on research, management, harvesting, processing, control and monitoring of Prunus	1. Status on research on *Prunus africana* established; 2. Status on the management, harvesting, processing, control and monitoring of *Prunus africana* established;	The project has led to strengthened collaboration between the CITES Management Authority (Ministry of Forestry and Wildlife), the Scientific Authority

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CITES/Appendix II listing tree species in Cameroon Projet de plan d'action et d'actualisation de l'avis de commerce non préjudiciable en vue de la gestion durable de Prunus africana (Rosaceae), espèce d'arbre listée en annexe II de la CITES au Cameroun (Projet S-567)		africana have completed their work 2. Conducting forest inventories 3. Conducting specific research for refining management parameters; 4. Organizing the restitution workshop for the validation of experts reports 5. drafting the NDF report for Prunus in the Adamawa and North Regions	3. Simple management plan of *Prunus africana* in the Tchabal Mbabo, considered as the pilot site developed; 4. Simple management plans for Prunus developed for each Prunus allocation unit, including: Adamawa 3, Gang Ndaba, and Mbabo; 5. Progress reports on rational exploitability standards and modeling of *Prunus africana* management available; 6. Forest inventories conducted in Adamawa and North regions; 7. NDF for *Prunus africana* in the Adamawa and North Regions developed and validated with a preliminary annual quota of 397.9 tons of dried barks/year; 8. Annual quota published in the CITES website; 9. Scientific research results of the Project defended: i) Effects of environmental and intrinsic factors on the estimated concentrations of 03 active molecules present in prunus africana bark; ii) Potential and carbon sequestration of Prunus africana iii) Sustainable management of a Non-Timber Forest Product in Cameroon iv) Implementation of Non-Detriment Finding guidelines 10. A document presenting norms/standards for sustaining Prunus in Adamawa and North regions to be drafted based on research results 11. A document presenting the control and tracking system of the barks of P. africana to be drafted ; 12. Six PhD students about to complete their research on different thematic research related to sustainable management of *Prunus africana* in Cameroon	(ANAFOR), experts recruited from different universities including the University of Douala, University of Dschang, University of Maroua as well as timber or trade companies. For the way forward, key elements include: 1. Pursue the refinement of the management parameters 2. Research synergies in actions to be conducted in the field in cooperation with other partners such as GIZ, WWF, and TRAFFIC International who is working in the Tchabal Mbabo forest massif. 3. Support for the implementation of the guidelines of the Prunus management plans 4. Ensure sustainable management of additional species, including *Guibourtia* spp and *Pterocarpus erinaceus* already listed as well as *Afzelia spp* and *Khaya spp* to proposed for CoP19

Title of project (English/French)	Country	Project goal and objectives	Outputs produced	Conclusions and possible future activities
Sustainable management of *Pericopsis elata* (Assamela) and *Pterocarpus erinaceus* (Bois de vène) in Côte d'Ivoire Projet de Sauvegarde de *Pericopsis elata* (Assamela) et de *Pterocarpus erinaceus* (Bois de vêne) en Côte d'Ivoire	**Côte d'Ivoire**	Specific objectives 1. Mapping the two tree species in Côte d'Ivoire 2. Conducting forest inventories for the two tree species in Côte d'Ivoire; 3. Develop the identification tool for the two tree species in Côte d'Ivoire 4. Training members of the Scientific Committee in the formulation of the NDF 5. Drafting the NDF for each of the two tree species; 6. Developing nurseries for the two tree species	1. Maps of each tree species well established in Côte d'Ivoire 2. Forest inventories conducted for each of the two tree species in Côte d'Ivoire; 3. A 50 kg seed bank of *Pericopsis elata* created and available at the SODEFOR Seed Center; 4. A nursery with a capacity of 3,000 *Pericopsis elata* plants set up and available at the SODEFOR Seed Center; 5. Identification guides for specimens and products of *Pericopsis elata* and *Pterocarpus erinaceus* are available; 6. Simple management plans for the stands of the 2 species; 7. 8,000 awareness brochures on CITES rules, the conservation and sustainable management of the 2 species produced and distributed to the various actors; 8. Awareness campaigns on the rules of CITES, the conservation and sustainable management of the two species for the various actors involved in the project carried out by the Regional Water and Forest Departments of Bouaké and Abengourou in their respective areas following a partnership with the Project; 9. The Restricted Scientific Committee of the project was formed and its capacities strengthened during a workshop; 10. A capacity building session for the staff of the forest control services and Customs, on the rules of CITES and the use of identification guides, was carried out during a workshop; 11. The NDF for *Pericopsis elata* produced. The quota is set at zero for the period 2022-2027; 12. The NDF for *Pterocarpus erinaceus* for 2 regions out of 5 inventoried regions is finalized	Future activities could include the following: 1. Implement the strategic action plans for the 2 species; 2. Further improve scientific knowledge on the phenology of Vène (*P. erinaceus*); 3. Determine the Minimum Regular Fructification Diameter (DFR) of Vène by a study; 4. Establish the cubage tariffs of the Vène according to the ecological zones by studies; 5. Define the Minimum Exploitability Diameter (MED) of Vène based on a study; 6. Strengthen the control system for the exploitation of the Vène; 7. Strengthen the traceability system for the exploitation of the Vène; 8. Improve the forestry coverage of Vène and Assamela; 9. Promote the 2 species in agroforestry programs with the populations; 10. Strengthen the capacities of the CITES Management Authority (Ministry of Water and Forests), the CITES National Committee and the CITES Scientific Authority of Côte d'Ivoire on methods for calculating export quotas, based on NDF; 11. Sensitize the various actors on the creation of community forests in order to conserve the 2 species in their natural environment;

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				12. Train the agents of the Ministry of Water and Forests and economic operators to carry out exploitation inventories 13. Implement the guidelines of the Strategic action plan developed and strengthen the sustainable management of species proposed for inclusion in App. II at CoP19, including *Khaya spp* or *Afzelia spp*.
Assessing the status of research on ecological dynamic, conservation status, management, harvesting, processing, traceability and trade of Kévazingo (*Guibourtia*) tree species in Gabon as the first step for making Non-Detriment Findings (NDF) in Gabon.	**Gabon**	Specific objectives: 1. Assessing the status of research, ecological dynamic, conservation status, management, harvesting, processing, traceability and trade of Kevazingo tree species 2. analysing data of management plans ; 3. training the project Scientific committee in the formulation of NDF; 4. formulation of the NDF on Kewazingo tree species in Gabon 5. conducting specific studies in ecology, phenology as to refine management parameters	1. Status on the research on ecological dynamic, conservation status, management, harvesting, processing, traceability and trade of Kevazingo tree species established; 2. Members of the Scientific committee well trained on NDF tools; 3. Data from management inventories conducted by timber companies analyzed; 4. NDF for one population prepared	1. Assist timber companies in the implementation of the guidelines of NDF report
Conservation and Sustainable Management of *Osyris lanceolata*, for Economic Development in East Africa	**Kenya, Uganda, United Republic of Tanzania**	Goal: Contribute to the sustainable management of East African Sandal wood (*Osyris lanceolata)*. Specific objectives: 1. Establishing the status on research, management, harvesting, processing, control and monitoring of *Osyris lanceolata*	1. Status on research, management, harvesting, processing, control and monitoring for each country for *Osyris lanceolata*. 2. Forest inventories conducted in Uganda and Tanzania to be reorganized as to capture key issues leading to the formulation of NDF; 3. Forest inventories conducted in Kenya; 4. Trainers and trainees identified for basic systematics from participating countries of	1. Need for a country wide inventory to provide data on the stocks in the country, which would enable prioritization of target sites based on stock and severity of threat. 2. Certain outputs to be completed; prioritization of target sites based on stock and severity of threat.

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		2. Formulate NDFs in each country for *Osyris lanceolata*	chain of custody for O. lanceolata for traceability 5. Detail report on Awareness creation and sensitization about the value and ABS amongst stakeholders including rural communities 6. Complete report on document-based tracking system in establishment done in Uganda 7. Completed report on Promote/empower rural community participatory forest resource management in Uganda 8. Completed report on Training of trainers in silviculture *of O. lanceolata* including seedling production and planting in Uganda	3. Studies, including facilitating proposals on non-CITES listed species but threatened by international trade including *Prunus africana, …* 4. Communication, education and public awareness program. **Trade** 5. Urgent need to determine current status of the species country wide through NDFs, for possible quota setting for sustainable local and international trade in the species. **Enforcement** 6. Unregulated trade of the sandalwood occurs across the borders of East Africa states, but there is inadequate tracking of the trade chain and quantities involved. The region must expedite synchronization of available Acts and regulations for coordinated monitoring and control 7. Need for raising awareness among the forest managers and other law enforcement staff on the identification of wood from sandalwood. 8. Need to develop and deploy more efficient detection methods since mode of smuggling has changed with enhanced law enforcement.
Sustainable management of *Prunus africana* populations in Madagascar:	**Madagascar**	Goal: Ensure the sustainability of international trade of *P. africana* bark and develop the necessary	1. Reports on the status of research, management, harvesting, processing, control and monitoring of Prunus africana;	1. Pursuing forest inventories for other regions and populations of the species;

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standing stock assessment, agroforestry, harvesting techniques and legal framework Gestion durable de la population de *Prunus africana* de Madagascar : évaluation de stock, agroforesterie, technique de prélèvement et cadre règlementaire		tools for its conservation in the mountainous forests of the country. Specific objectives: 1. Establish the status on research, management, harvesting, processing, control and monitoring of Prunus africana; 2. Develop an action plan 3. Establish management standards for sustainable exploitation of the species; 4. Develop NDF, including forest inventories on *Prunus africana;* 5. Strengthening the capacity of the involved stakeholders	2. A strategic action plan for the sustainable management of *Prunus africana* available 3. Forest inventories completed in Sofia (north of the country) 4. Simple management plan (SMP) established, including harvesting norms for the region concerned ; 5. NDF document produced for the region	2. Develop NDF for other regions and populations of the species; 3. Implementing the guidelines of the SMP
Non detriment findings for *Pericopsis elata*, *Guibourtia demeusei, Prunus africana* in the Democratic Republic of Congo	**Democratic republic of Congo**	Goal: Develop NDF for *Pericopsis elata*, *Guibourtia demeusei, Prunus africana* Specific objectives: 1. Conduct socioeconomic studies for each tree species within their respective range; 2. Conduct an in-depth study on the systematic conversion of volumes of products transformed into equivalent volumes of roundwood using a appropriate conversion rate on *Pericopsis elata* 3. Develop or update Non-Detriment Findings (NDFs) of *P. elata* (Afrormosia), *Guibourtia demeusei* (Bubinga) as well as *Prunus africana* (Pygeum) and ensure the dissemination of their results.	1. Socioeconomic studies on the contribution of each the three species on the livelihoods of local people developed; 2. Status on the research, management, harvesting, processing, control and monitoring established for each of the three species; For *Pericopsis elata:* 3. A report showing the ratio between the raw volume and the processed volume developed for the species ; 4. NDF for *Pericopsis elata* drafted for more than 15 forest concessions in the Equator and Orientale regions. Export quota in round wood equivalent passed from 50 000 m^3 in 2020 to 98 000 m^3 in 2021 and 77 000 m^3 in 2022 and published in the CITES website; 5. The conversion rate of processed *Pericopsis elata* wood established; 6. Critical analysis of the control and tracking system for *Pericopsis elata* well dressed;	1. Harvesting quota defined for *Guibourtia demeusei* and *Prunus africana* have to be updated for 2023 with data coming not only (1) from exploitation inventories, (2) and from more refined management parameters 2. The originality of the fourth edition of the *Pericopsis elata* NDF lies in (1) the limitation of quotas to forests with validated management plans (the 1st-3rd edition included non-managed forests), and in (2) the quality of the inventories considered which are here exploitation inventories carried out at 100% on the exploitable resource; 3. Implementation of the guidelines of NDF developed and sustainable management

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			For *Guibourtia* 7. NDF for *Guibourtia* tree species drafted; a prudent (based on management inventories) quota of 14 000 m^3 of round wood equivalent determined For *Prunus africana* 8. Critical analysis of the control and tracking system for *Prunus africana* well dressed 9. A database allowing to enhance the control of CITES permits available at the CITES Management authority; 10. Awareness workshops organized among different stake holders; 11. NDF for *P. africana* developed	of other CITES listed species, such as *Guibourtia tessmannii, G. pelegriniana, Pterocarpus erinaceus, Osyris lanceolata* as well as *Afzelia spp, Pterocarpus soyauxii,*and *Khaya spp* proposed at CoP19.

Asia

Title of project	Country	Project goals and objectives	Outputs produced	Conclusions and possible future activities
Integrating the Development of Guidelines and Incentives for Piloting the Establishment of Small-scale Private *Dalbergia* Plantations with the Determination of a Non-detriment Findings Report in Preah Vihear Province in Cambodia.	Cambodia	Goal: Ensure the survival and sustainable management and expand the area of *D. oliveri* and *D. cochinchinensis* in Cambodia. Specific objectives: Develop a non-detriment findings report on *D. cochinchinensis* and *D. oliveri* in Preah Vihear province and institutionalize an enabling environment to support the establishment of small-scale private plantations of the species.	1. Systematic Survey Report of *Dalbergia cochinchinensis* and *Dalbergia oliveri* for Piloting Assessment on Sustainable Genetic Conservation in Choam Ksant District, Preah Vihear Province. 2. Review of the taxonomy, biology, ecology, and the status, trend, and population structure of *D. cochinchinensis* and *D. oliveri* in Choam Ksant District, Preah Vihear Province, Cambodia. 3. Assessment Report on the Conservation Status, Management Practices, and Harvest Monitoring of *Dalbergia cochinchinensis* and *Dalbergia oliveri* in the Choam Ksant District, Preah Vihear Province.	1. Plant more CITES' Tree Species listed as part of Global Landscape Restoration and One Trillion Tree Initiative. 2. Develop local/national Guidelines/ Regulations/ Assessment on Legal Acquisition Finding (LAF) and Non- Detrimental Finding (NDF), traceability, green supply chain for CITES-listed tree species.

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			4. CITES Non-detriment Findings Report on *Dalbergia cochinchinensis* and *Dalbergia oliveri* in the Choam Ksant District, Preah Vihear Province. 5. Report on National Extension and Consultation Workshop on Rules and Guidelines for Private Forest Plantation Registration in Cambodia, 26-27 November 2021, Phnom Penh, Cambodia. 6. Report on the "Guidelines on Private Forest Registration in Cambodia" (Khmer language with English Executive Summary). 7. Guidelines and incentives to encourage the establishment of private plantations of *D. cochinchinensis* and *D. oliveri* in Cambodia. 8. Report on the Virtual Training Workshop on the CITES Non-detriment Findings Report on *D. cochinchinensis* and *D. oliveri* and the Economic Analysis and Comparative Advantage of Plantations of *D. cochinchinensis*.	
A Non-Detriment Findings Report and A DNA database for *Dalbergia latifolia* in Java and West Nusa Tenggara, Indonesia.	Indonesia	Goal: Prepare a Non-Detriment Findings (NDFs) report of *D. latifolia* in Java and West Nusa Tenggara in Indonesia and establish a DNA fingerprints reference database. Specific Objectives: 1. Collect information and prepare a Non-Detriment Finding report for *D. latifolia* in Java and West Nusa Tenggara. 2. Develop a DNA reference database for identifying the geographic origin of *D. latifolia*	For the NDF: 1. A review on Taxonomy, Biology, Ecology and Population Status of *Dalbergia latifolia* from Indonesia. 2. Report on the Establishment of Growth and Yield Plots, including the guideline for their establishment, and established 10 such plots in West Java, Yogyakarta, and West Nusa Tenggara, as well as conducted experiments on the vegetative propagation techniques of *D. latifolia*. 3. Distribution Ecology, Spatial Modelling and Regeneration *D. latifolia.* 4. Assessment of the current management practices, the current harvest control and monitoring, and the conservation status of	The results of the NDF report suggested that the export from Indonesia that comes from two harvest regimes, the state-owned forestry company (Perhutani) and community-owned lands is not detrimental to the species in the wild. A web-based *D. latifolia* database application had been developed to store the information of DNA sequence data and ecological information linked to the DNA specimens. The database also functions as a tool to trace the origin of the wood and wood

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		in Java and West Nusa Tenggara.	*Dalbergia latifolia* in Java and West Nusa Tenggara, Indonesia. 5. The Non-Detriment Findings (NDF) Report for *Dalbergia latifolia* in Java and West Nusa Tenggara, Indonesia. 6. Report of the Workshop on the Dissemination of the Non-detriment Findings Report (NDF) for *Dalbergia latifolia* in Java and West Nusa Tenggara, Indonesia. For the DNA reference database: 7. Report on the Molecular characterization of *Dalbergia latifolia* from Java and West Nusa Tenggara: DNA extraction, PCR amplification, and DNA sequencing. 8. Report on the Development of *D. latifolia* Database in Indonesia. 9. Report of the Workshop on the Dissemination of the Development of the DNA Database and the Molecular Genetic Study for *Dalbergia latifolia* Populations in Java and West Nusa Tenggara, Indonesia. 10. A DNA Extraction Protocol for Wood of *Dalbergia latifolia* in Java and West Nusa Tenggara, Indonesia.	products of *D. latifolia*. The DNA database of *D. latifolia* could be further developed to upgrade its ability to meet future needs.
Establishment of Arboreta and Strengthening Institutional Network for the Conservation of *Aquilaria malaccensis* in Peninsular Malaysia.	Malaysia	Goal: Conservation of a threatened agarwood species, *Aquilaria malaccensis*, in Malaysia. Specific objectives: Enhance conservation activities for *A. malaccensis* through the establishment of institutional networks and arboreta.	1. Guidelines for the establishment of *Aquilaria malaccensis* arboretum in Peninsular Malaysia. 2. Outreach Action Plan of the *Aquilaria malaccensis* Arboretum 2022–2031. 3. A report on the strengthening of networking between relevant states and federal agencies to discuss and resolve issues on the conservation and sustainability of *Aquilaria malaccensis* in Malaysia, including the sharing of data.	1. Potential of exploring genome-wide association studies. 2. Tree improvement and breeding programmes – potential as commodity species. 3. Teaching facility for tree dendrology. 4. Establishment of additional arboreta to improve the

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			4. Establishment of *Aquilaria malaccensis* arboreta in Pahang and Selangor, Peninsular Malaysia. A total of 3,059 seedlings were raised in the FRIM nursery with 442 seedlings representing 9 populations planted in each of the two arboreta established.	representation of the species' range.
Strengthening the management and conservation of *Dalbergia cochinchinensis* and *Dalbergia oliveri* in Vietnam.	Viet Nam	Goal: Ensure the long-term sustainable conservation and management of harvesting and trading of rosewood species in Viet Nam. Specific objectives: 1. Formulate NDF and support its implementation for *Dalbergia cochinchinensis* and *Dalbergia oliveri* in Viet Nam. 2. Develop a long-term conservation plan for the two species in Viet Nam. 3. Develop a rosewood identification manual to support identifying, tracking and managing the harvest and trade more effectively.	Published reports: 1. Review on the taxonomy, biology, ecology, and the status, trend and population structure and dynamics of *Dalbergia cochinchinensis* in Vietnam. 2. Review on the taxonomy, biology, ecology, and the status, trend and population structure and dynamics of *Dalbergia oliveri* in Vietnam. 3. Review of the current harvest control and monitoring of *D. cochinchinensis* and *D. oliveri* in Vietnam. 4. A Management and Conservation plan for *D. cochinchinensis* and *D. oliveri* covering four protected areas in Vietnam, including piloting the plan. 5. Report on the systematic field survey of the population distribution, abundance, and stocking of *D. cochinchinensis* and *D. oliveri* in four key protected areas of the Oak Uy Special-Use Forest, the Bu Gia Map, the Cat Tien, and the Yak Don national parks in Vietnam. 6. Non-detriment finding (NDF) report of the two species in Vietnam. 7. Report on the Training Workshop for Local Authorities and Management Agencies to Share the NDF's Recommendations and Guidance for Implementation of the Recommendations at the Local Level.	The project has assisted the Vietnam's management and scientific agencies to understand the current situation of *D. cochinchinensis* and *D. oliveri* populations in the wild and the need to have a sustainable management and conservation plan for the species. This would save wild populations of 0. cochinchinensis and 0. oliveri as well as contributes to their conservation in Vietnam. The project had also imparted knowledge on the current populations, distribution and threats of *D. cochinchinensis* and *D. oliveri* to enforcement officers and protected areas' managers, as well as technical staff to strengthen the management, protection and conservation of these rare species in their management areas. One of the recommendations of the NDF report for *D. cochinchinensis* and *D. oliveri* in Vietnam was to apply zero quotas

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			8. Identification manual for *Dalbergia cochinchinensis* and *Dalbergia oliveri.* 9. Report on the development of the *Dalbergia* identification App. 10. An App to identify *D. cochinchinensis* and *D. oliveri* trees, timbers, and timber products in the field using mobile devices such as smartphones or tablets (Vietnamese). 11. Report on The Training Workshop to Train Management and Enforcement Officers to Effectively Use the Rosewood Identification Manual and the App.	for the harvest and export of wild-taken timbers of these two species for the period from 2022 - 2027. This was endorsed by the Vietnam CITES Management Authority in its letter to the CITES Secretariat dated 8 March 2022.

Central and South America and the Caribbean

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Elements for the sustainable management of the species Bulnesia sarmientoi “palo santo” in the Gran Chaco Region of Argentina Bases para la gestión sostenible de la especie *Bulnesia sarmientoi* “palo santo” en la Región del Gran Chaco de Argentina.	Argentina	Specific objectives: 1. Agree on a management strategy with the provinces that have forests with the presence of palo santo for the formulation of the PICTO 013, to be implemented in the short term. 2. Increase the level of biological and socioeconomic knowledge to improve the sustainable and adaptive management of palo santo at the landscape scale and at the property level, thus achieving information with a higher degree of certainty for the issuance of NDF.	1. The strategies, procedures and technical specifications for the use of the species were agreed between the four jurisdictions involved, updating and improving those already established in the past. 2. Approval of the of the new Ministerial Resolution Environment and Development Sustainable No. 59/2021 for the CITES certificate issuance for palo santo export. 3. Documents, databases, maps and digital coverage that meet the requirements referred to the environmental and socioeconomic dimension at a regional and national scale of the species *Bulnesia sarmientoi* in Argentina.	1. Adjust silvicultural models to different forest types and site qualities 2. Incorporate product traceability technology. 3. Extend the “palo santo model” to the rest of the forest and to other types of forest. 4. Monitor the sustainability of interventions, especially regeneration. 5. Improve income distribution. 6. Give greater added value to products; 7. Work towards sustainable forestry management; 8. Offer training to forest control agencies.

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		3. Disseminate the results of this project and all the actions carried out forward by the Ministry of Environment and Sustainable Development (MAyDS) that complement it to the actors involved. 4. Develop strategic links to the other countries of the Great American Chaco (Bolivia and Paraguay).	4. Comparative report on methodologies, practices and circumstances related to six Adaptative Forest Management Implementation Sites (SIMAS) in forests with Palo Santo species. 5. Comparative report of the palo santo situation between Argentina, Bolivia and Paraguay; and information sharing 6. Two scientific papers	9. Generate management tools based on the information obtained from the project.
Rapid-Field Identification of *Dalbergia* Woods and Rosewood Oil by NIRS Technology – NIRS ID	**Brazil**	Objectives: 1. Build Near-infrared spectroscopy (NIRS) models using portable devices for identification and classification of 20 Dalbergia species. 2. Develop a method of direct analysis by NIRS to authenticate the purity of Aniba rosiodora essential oil.	1. Technical Note – Panorama of the Research and Market for *Dalbergia* wood in Brazil: Implications on the Preservation of the Genus published on https://cites-tsp.org/regions/brazil/ 2. Historical and general overview of technical-scientific production on rosewood oil (*Aniba rosiodora* Ducke) - document published on https://cites-tsp.org/regions/brazil/ 3. Obtaining NIRS spectra of wood of the *Dalbergia* genus deposited in the wood xylarium of Mexico. 4. NIR spectra of *Dalbergia* species obtained in four national xyloria (INPA, IPT, IB/USP and, IPA).	Conclusions: 1. The NIRS method is fast, shows low cost, and is very efficient (98.9%) for A. rosiodora oil authenticity; 2. It is non-destructive, needs no pre-treatment, produces no chemical residues, and requires only 0.2 mL of the sample. 3. GC-MS corroborates with the NIRS analyses; 4. 95.4% of commercial samples purchased in Brazil were considered non-authentic (non-pure).

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			5. 20 samples of *Dalbergia miscolobium* and 20 samples of *Machaerium opacum* collected in Brasília´s savanna; 6. Five university students and one Junior researcher trained. 7. Guidelines for NIRS analysis for *Dalbergia* wood discrimination produced. 8. 129 rosewood oil samples collected in the Amazon state's communities and at industries. Chemical analysis (NIRS; MIR; and Mass spectroscopy) of all samples is finished. 9. Guideline for NIRS analysis for rosewood oil produced. 10. Obtaining NIRS spectra of wood deposited in the Botanical Garden of Rio de Janeiro.	Future scenarios: 1. Physicochemical characterization of the Rosewood oil; 2. Expand NIRS Technology to oils of other CITES-listed species, e.g. Palo Santo (*Bulnesia sarmientoi*) from Argentina and East African Sandalwood (*Osyris lanceolata*) from Kenya, Tanzania, and Uganda. 3. Expand NIRS Technology to wood of other CITES-listed tree species: *Cedrela and Handroanthus* (S. America), and *Paubrasilia* (Brazil);
Big-leaf mahogany provenance and timbers identification by NIRS Technology	**Brazil**	Goal 1. Ensure sustainable growth of rare and valuable tree species and their product through an improvement of the technical and technological capacity; 2. Contribute to legal and traceable trade in products of these tree species, including technical/graphic advances in identification, and 3. Improve and strengthen forest governance, forest management policies and enforcement capacity and ensure the benefit of long-term support for forest management in areas with CITES species.	1. The use of NIRS for species identification and tracking has many advantages, such as minimal sample preparation and fast data acquisition, and it is relatively inexpensive. 2. The project has developed an experimental procedure to reduce wood moisture content in field conditions involving the application of a heat jet focused on a small area of the wood sample, followed by rapid cooling (to room temperature) by applying a high-volatility fluid; this technique was able to reduce moisture content from 15% to 11% at one sawmill and from 25% to 13% at a second sawmill. Cedar samples could be identified at an efficiency of 95%.	Conclusions 1. The proposed drying procedure is efficient and improved the results in field conditions. 2. Measurements/drying are more effective at the ends of the boards. 3. The time for analysis increased to ~30min. 4. Preliminary results indicate that the cargo tracking is possible. 5. New experiments are being conducted to establish the acceptance probabilities and limitations. Future scenarios:

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		Specific objectives: 1. Develop a methodology for rapid and punctual drying of the wood that will be analyzed by NIRS in a field situation; and 2. Carry out a case study of monitoring the state of *Swietenia macrophylla* (mahogany) wood, at the place of origin, during transport and at the export port.	3. The NIRS technique applied in wood cargo tracking. The model was able to confirm the identity of the original cargo and that other sampled cargos were from other origins.	1. Expand NIRS Technology for monitoring wood cargo transportation**.** 2. Make the Matlab Program App more user-friendly.
Development of the capacity to achieve a more effective implementation of CITES in Cuba for timber species of the genus *Guaiacum* Fomento de la capacidad para lograr una más efectiva implementación de la CITES en Cuba para especies maderables del género *Guaiacum*	**Cuba**	Specific objectives: 1. Examine current distribution, abundance, and dynamics population of the species of Guaiacum spp and obtain updated information that allows the Scientific Authority making a non-detriment finding and establish actions for its conservation. 2. Strengthen the role and effective cooperation of Scientific Authorities and the control authorities of the trade in wood and its products to prevent, deter and combat forest crimes, through the design of actions comprehensive control systems, an information and collection system of data and the awareness of producers, artisans, merchants and consumers about the damages derived of illegal trade,	1. An assessment of the ICCWC Indicator Framework to combat wildlife and forest crime. 2. Planting in protected areas accomplished: Plants in plastic bags (in the 1st year) of *S. mahagoni* (2500), *G. officinale* (400) and *G. sanctum* (400), and 4 timber species under critical threat: *Juglans jamaicensis* (50), *Juniperus lucayana* (80), *Ekmanianthe longiflora* (10) and *Albizia cubana* (100) for planting in protected areas. 3. Press release: the CITES tree species Project in the World Wildlife Day: http://www.acn.cu/medio-ambiente/76875-iniciaran-acciones-sobre-proyecto-internacional-para-the-promotion-of-guayacan and http://www.cuba.cu/medio-ambiente/2021-03-03/cuba-celebra-el-dia-mundial-de-la-vida-silvestre/55026 4. Report on the expedition to the province of Guantánamo. June 2022	1. Continue population studies of the species studied. 2. Increase control over illegal logging and trade, which are the main threat to the species. 3. Incorporate these species into conservation objectives of protected areas. 4. Update forest management plans and include in the Forest Management database to *G. sanctum.* 5. Promote the use of these species in the plans of reforestation. 6. Evaluate the inclusion of *G. officinale* in the of more rigorous legal protection where it is already found with the aim of facilitating regulatory control.

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		to the conservation of selected species	5. First observations on the germination of the Guaiacum genus in Cuba. August 2022 6. Non-detriment finding of *Guaiacum officinale* in Cuba; 7. Non-detriment finding of *Guaiacum sanctum* in Cuba.	
Comprehensive analysis of the tree species of the genus Dalbergia and similar through the forensic wood laboratory for strengthening the implementation and application of CITES in Guatemala Análisis integral de las espécies arbóreas del género *Dalbergia* y similares a través del laboratorio forense de maderas para el fortalecimiento de la aplicación de la CITES en Guatemala	**Guatemala**	Goal: Contribute to the conservation of forest biodiversity in Guatemala, by strengthening the application of CITES in the country, as well as the Forest Governance System Specific objectives: 1. Comprehensively characterize the tree species of the Dalbergia genus of Guatemala and 5 similar species; 2. Molecularly characterize the tree species of the Dalbergia genus in Guatemala and elucidate taxonomic aspects related to the genus; and 3. Prepare the documentation for the identification process of tree products under the guidelines of ISO 17025 and link the Laboratory to the environmental justice system in Guatemala	1. Manual for integral identification of Guatemalan *Dalbergias* and 5 similar tree species with this information: 2. Phytogeographycal, phenological, botanical, dasometric and current status studies of the tree species of Guatemalan *Dalbergias* and 5 similar species; 3. Organoleptic, physical, microscopical and macroscopical studies on *Dalbergia* and 5 similar wood. 4. Digital photographs collection deposited at the Lab. 5. Botanical vouchers deposited at AGUAT Herbarium. 6. Wood samples of the species deposited at the Lab Xylarium. 7. Local and Export commerce studies on *Dalbergia* wood species and 5 similar species finished and article done. 8. Studies on molecular characterization of Guatemalan *Dalbergia* trees finished as well as the scientific article on the topic. 9. Molecular elucidation of taxonomic aspects on *Dalbergia* species 10. Report on the botanical survey of the genus Dalbergia in Guatemala	Conclusions 1. The Forensic Laboratory for the Identification and Description of Woods has substantially increased its competencies for the identification of woods; it has improved its ability to scientifically support cases of illegal trafficking in the Guatemalan justice system and is already providing services to the Environmental Prosecutor's office. 2. Species identification capacities have been improved by botanical and molecular methods, useful for legal cases and for support to CONAP and INAB. 3. The ability to identify woods has been improved and the collection of tablets in the Xiloteca has increased, as well as tables, shields, histological mounts, botanical vouchers and photographs. Future activities 1. Expand the capacities of the forensic laboratory 2. Expand the studies on arboreal Dalbergias, CITES

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				species and similar species at a regional level 3. Carry out Conservation, recovery and integral forest management projects and create an arboretum 4. Support acquisition of laboratory equipment
Comprehensive analysis of the tree species of the genus Dalbergia and the like through the forensic wood laboratory for strengthening the application of CITES in Guatemala, El Salvador and Nicaragua Generación de capacidades y lineamientos técnicos de manejo para elaborar dictámenes de extracción no perjudicial orientados a las especies del género *Dalbergia* en Guatemala, El Salvador y Nicaragua	- **Guatemala** - **Nicaragua** - **El Salvador**	Specific objectives 1. Create a monitoring tool for the conservation and sustainable management of tree species of the Dalbergia genus in Guatemala, El Salvador and Nicaragua 2. Develop the technical guidelines for sustainable management to prepare non-detrimental logging reports aimed at tree species of the Dalbergia genus in Guatemala, El Salvador and Nicaragua; 3. Develop the technical management guidelines for Production Systems in Plantations and Agroforestry Systems, using tree species of the genus Dalbergia in Guatemala, El Salvador and Nicaragua, as a measure for reproduction and reduction of pressure on natural populations and in situ conservation; 4. Develop plan aimed at promoting the sustainable management of tree species of the Dalbergia genus in the wild and through Production	1. Monitoring tool developed by country for the conservation and sustainable management of species of the genus *Dalbergia*, for the period 2019-2029, using as a basis the results of the previous studies and the general information of the present project. 2. Automated electronic tool (web application) for verification of the progress in the implementation process of the monitoring tool for the conservation and sustainable management of the genus *Dalbergia*, for the period 2019-2029. 3. Sustainable management technical guidelines for timber species of the genus *Dalbergia* for Guatemala, El Salvador and Nicaragua are elaborated and validated. 4. A pilot plan in at least one of the three countries, incorporating the technical guidelines for sustainable management for timber species of the genus *Dalbergia* in the wild, is implemented. 5. General information on the tree species of the genus *Dalbergia*, in plantations and agroforestry systems at the field level 6. Technical management guidelines for Plantations and Systems Agroforestry that include tree species of the genus *Dalbergia* in Guatemala, El Salvador, and Nicaragua prepared and validated.	Conclusions 1. The project has established baseline information on Dalbergia species in each of the three participating countries. 2. A web-based tool has been produced for monitoring and verifying progress in the implementation of a regional strategy for the conservation and sustainable management of Dalbergia in the three countries, which spans ten years. 3. A standardized methodology has been developed for the installation and measurement of permanent monitoring plots; in El Salvador and Nicaragua, these plots were the first of their kind for monitoring the dynamics of Dalbergia species. In Guatemala, a report was prepared to show initial findings on the dynamics of Dalbergia species based on the remeasurement of 11 restored permanent monitoring plots. 4. More than 50 000 seedlings of Dalbergia and other species

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		Systems in Plantations and Agroforestry Systems, to help alleviate poverty in rural areas.	7. A pilot plan in one of the three countries, incorporating the technical management guidelines for Plantations and agroforestry Systems for tree species of the genus *Dalbergia*, is implemented. 8. Technical guide and / or field manual for the management of the species of the genus *Dalbergia* in the wild, plantations and agroforestry systems are prepared, printed, and shared with stakeholders in Guatemala, El Salvador, and Nicaragua. 9. Non-detriment findings for the species *Dalbergia retusa* Hemsl. Prepared for Guatemala, El Salvador, and Nicaragua. 10. Three prioritized areas (one in each Country) will have a technician extensionist for a period of six months, to promote sustainable management of species of the genus *Dalbergia* in the wild, plantations and systems agroforestry. 11. At least 50 rural producers per country receive training and / or technical assistance in Guatemala, El Salvador, and Nicaragua. 12. At least 20 forestry professionals per country receive training on sustainable management of *Dalbergia*, to multiply knowledge and provide a specialized technical assistance. (Expected product).	have been raised in nurseries across the three countries and distributed to landholders; research was also conducted into pre-germination treatments and sexual and asexual reproduction. Possible future activities include 1. Maintenance of the automated WEB tool; 2. Consolidation of the PPM network in the Region, generating results to incorporate them into the management plans. 3. Follow-up of the lines of research identified 4. Generally, the natural distribution areas of Dalbergia are linked to areas with poverty: promote a restoration strategy in these areas; 5. Strengthening of capacities for the understanding and formulation of the NDF and LAF to other *Dalbergia sp.* and even to other possible species to be included in the CITES. (for instances species of the genera *Tabebuia, Roseodendron, Handroanthus*) 6. Validation and training for foresters on technical guidelines in the formulation of management plans (sustainability) 7. Actions for dissemination, publication and production of audio-visual materials.