

**PROJECT TO THE
Convention on International Trade in Endangered Species (CITES):
“Supporting sustainable management of endangered tree species”**

Submitted by: Center for Nature Conservation and Development (CCD)

Endorsed by the Management Authority of Vietnam

TITLE of Proposed Project:

STRENGTHENING THE MANAGEMENT AND CONSERVATION OF *DALBERGIA COCHINCHINENSIS* AND *DALBERGIA OLIVERI* IN VIETNAM

SUMMARY

Rosewood (*Dalbergia* spp.) is among the most logged and high-price timbers that are illegally traded in Vietnam and the Indochina region. Because of the illegal logging and trading, the wild populations of rosewood have declined drastically in many localities and the remaining populations are under severe threat, even in specific areas established to protect the species. Rosewood are protected by Vietnamese law, such that the logging and trading of this species require permit and proper reporting. However, the extent of harvesting and trading have neither been documented nor enforced effectively. This is clearly a gap in management of rosewood that needs to be urgently addressed. The project aims to address the management gaps comprehensively to ensure that harvesting and trade the two most harvested *Dalbergia cochinchinensis* and *D. oliveri* will be sufficiently managed and monitored; capacity of management authorities will be sustainably enhanced; harvesting and the trading community will be sufficiently trained and guided to ensure that they will follow national regulations and international standards; relevant materials and technical support will be made available to support effective management and enforcement; and more importantly a long-term management plan for rosewood will be available to ensure that the wild populations of rosewood will be secured, and trade and harvest will be sustainable. The outcomes of the project will make an impact on Vietnam’s regulations on natural resources and wildlife trade policy amendment, ensuring a sustainable future use of Vietnam’s wild animal and plant. In addition, the project will also strengthen the capacity of both the management and scientific institutions, establishing a more effective cooperation and an overall effective conservation of endangered species and the implementation of international agreements. Finally, it will contribute to global efforts in the management of trade and improve the conservation of rosewood species.

EXECUTING/IMPLEMENTING AGENCY:

Center for Nature Conservation and Development (CCD).

COLLABORATING AGENCIES:

Vietnam CITES Management Authority.

Vietnam CITES Scientific Authorities: (i) Central Institute for Natural Resources and Environmental Studies; (ii) Institute of Ecology and Biological Resources; and (iii) Vietnam Institute of Forestry Science.

DURATION (months): 24 months (to 31 March 2021).

PROPOSED START DATE: 01 April 2019

PART I: CONTEXT

Origin/Background

Vietnam has a total area of 331,688 km² and about 3,260 km of coastline with thousands of islands nearby. Vietnam has a tropical monsoon climate, with an average annual rainfall of around 2,000 mm, a general humidity level of about 84%, and temperatures ranging from 5°C in the winter to 37°C in the summer (GDS, 2016). The country has 12,616,700 ha of forest land and the forest cover accounts for 43% of this area (GDS, 2016).

Vietnam's biodiversity richness consists of approximately 20,000 to 30,000 vascular plant species that represent 6.5% of the species in the world (Groombridge, 1992). Vegetation in Vietnam is highly endemic; 33% plant species in the north and about 40% plant species nationwide are considered to be endemic species to the country and the region (Pocs Tamas, 1965). There are about 11,458 animals, 21,017 plants, 3,000 micro-organisms, 1,030 mosses and 826 fungi species have been confirmed as occurring in Vietnam (WB, 2005). In addition, Vietnam is home to 10% of world's wild fauna and flora species. Among these, 28% of the mammals, 10% of the birds, and 21% of the amphibians are endangered (WB, 2005). Nevertheless, biodiversity degradation and deforestation remain as critical issues in Vietnam. Large forest areas have been converted to agricultural land or cut by the timber industry. In addition, illegal wildlife trade has posed lots of difficulties to wildlife survival, especially to endemic and endangered species. Among the plants that are threatened by trade, rosewood (*Dalbergia* spp.) is one of the most threatened groups of plants, and the yellow rosewood (*Dalbergia tonkinensis*) and Siamese rosewood (*Dalbergia cochinchinensis*) are the most wanted species in trade for high-end furniture products (EIA, 2017). The rosewood trade (legal and illegal) contribute in the Vietnam increasing growth of the timber and wooden furniture industry. In 2017, the export value of lumber and forestry products was US\$ 8 billion, while the domestic sales were US\$ 1.47 billion (Vietnam Investment review, 2018).

The information on rosewood in Vietnam seem quite scattered and mostly focus on distribution and taxonomy work and lacking detail information on harvest, trade as well as information on status of their remaining population in the wild. *Dalbergia cochinchinensis* and *D. oliveri* are known to occur in the same forest types in south-central Vietnam. Currently they are confirmed to exist in six key provinces, including: Kon Tum, Gia Lai, Dak Lak, Lam Dong, Binh Phuoc, and Dong Nai. However, it is difficult to find any viable population in any non-protection forests due to heavy logging and deforestation. The viable population of the two species is now believed to be found only in 4 protected areas that cover approximately 200,000 ha of natural forest (Dak Uy, Yok Don, Bu Gia Map and Cat Tien) that are located in four provinces (Dak Lak, Kon Tum, Binh Phuoc and Dong Nai). Their populations might exist in a few other provinces such as Gia Lai, Lam Dong, and Dak Nong. However, the remaining populations if they still exist will be very small with no mature trees. Nevertheless, even in the four protected areas information on their population status was not clearly known and documented.

The research on rosewood species in Vietnam to date were largely focused on taxonomy and documentation of the distribution areas and highlighted value of their timber rather than focus on their genetic diversity and identify problem of illegal harvest and trade as well as creating sufficient conservation measures (Anon 2003, MOST 2007, Pham Hoang Ho, 1960). Recently, non-taxonomy and genetic research on rosewood has started but focus mostly on the *D. cochinchinensis* and *D. oliveri* (Dinh Thi Phong et al. 2011, Vu T. T. Hien & Dinh Thi Phong, 2012). In addition, research on the logging and trade has been implemented more often in the last five years has provided better information on the level of trade, trade chain and their associated markets and demands (EIA, 2015, 2017, Treanor 2015).

Rosewood is one of the most special wood species groups in Vietnam historically and culturally. Rosewood timber is well-known for being a long-lasting, corrosive-resistant and termite-resistant timber that has been used in construction and furniture for a century. There are at least four species of rosewood that naturally grow in Vietnam, namely, *Dalbergia annamensis*, *D. cochinchinensis*, *D. oliveri* and *D. tonkinensis*. All of them are listed as threatened or endangered

by IUCN and the Vietnamese Redbook (IUCN, 2017, MOST, 2007). Since they are protected under Vietnamese laws at different levels, the harvesting and trading of these woods require proper documentation (Government Decree. 32/2006/ND-CP). Regardless of the fact that the *D. tonkinensis* is strictly protected by national law, illegal logging and trading of this species are still continuing with weak regulations. Out of the four species, Siamese rosewood (*D. cochinchinensis*) and Vietnamese rosewood (*D. oliveri*) are the most frequently traded rosewood. The price of rosewood in Vietnam varies by species. For instance, the most expensive yellow rosewood (*D. tonkinensis*) could reach US\$200,000.00 per cubic meter; high quality Siamese rosewood could be sold for US\$50,000.00 per cubic meter; and other high-quality timber of Vietnamese rosewood could reach US\$15,000.00 per cubic meter. Therefore, high value in trade is the key driver for rosewood's illegal logging and trading.

There is no doubt that rosewood is among the most threatened and most traded tree species in both the domestic and international markets for a long time. Nevertheless, there is no non-detrimental finding (NDF) assessment prepared for the rosewood in Vietnam. In addition, there is no conservation plan prepared for this endangered plant yet. To date, there are very few conservation efforts to conserve the remaining wild population and relevant stakeholders received no training on rosewood management.

According to the national regulation (Decree 32/2006/ND-CP and Decree 160/2010/ND-CP) population, distribution of rosewood and other national endangered plants will be properly studied and updated in a specific profile and in a national database. However, no such activity has been implemented. Therefore, despite the fact that rosewood is heavily harvested and traded in Vietnam, this group of plants is considered as one of the most undocumented plants in trade. In the last five years, reports on the trade in Siamese rosewood only highlighted the trading region/regional trade, but left out details about the harvest and trade in Vietnam which were never recorded. Therefore, the harvesting and trade of this wood should be prioritized and highlighted with proper management mechanism, and thus ensuring a sustainable source of rosewood in Vietnam.

Therefore, this project will fill the gaps by preparing a NDF report for two most traded rosewood species *Dalbergia cochinchinensis* and *D. oliveri*; and prepare a conservation plan with suitable management regime for sustainable harvest and trade for these two species. Furthermore, the project will strengthen and improve the competency of management and conservation for local community, businessmen who depend on the trade and processing of rosewood, provide support and training for relevant management authorities in monitoring of harvest and trade, as well as efforts taken to conserve the species.

Information provided by this project will strengthen the transparency of the actions taken in conservation, harvest and trade. It will also build an effective conservation and management regime, securing a trade at a sustainable level with the aim of ensuring long-term harvest and trade, and facilitating the positive recovery of wild rosewood populations in the wild. At the national level, the project will directly support the implementation of the national Biodiversity Strategy (2013) which is known for reinforcing the management and conservation of endangered plant species. At the global level, the project and its activities will directly support the Conf. 11.11 (Rev. CoP17) of CITES on "Regulation of Trade in Plants".

PART II: THE PROJECT

1. Project Goal and Objectives

Project goal

To ensure long-term sustainable conservation and management of harvesting and trading of rosewood species in Vietnam.

Project objectives

1. To formulate a non-detrimental findings report and support the implementation for *D. cochinchinensis* and *D. oliveri* in Vietnam.
2. To develop a long-term conservation plan for *D. cochinchinensis* and *D. oliveri* in Vietnam.
3. To develop a rosewood identification manual to support identifying, tracking and managing the harvest and trade more effectively.

2. Justification

2.1. Problems to be addressed

Rosewood is among the most threatened plants that are being harvested and traded legally and illegally in Vietnam. All rosewood species are harvested and traded nationally and internationally for commercial purpose (Nguyen *et al.*, 2007, Nguyen per.com 2016, EIA, 2017). The most common rosewood species harvested and recorded in trade are the Siamese rosewood (*Dalbergia cochinchinensis*) and Vietnamese rosewood (*Dalbergia oliveri*), while others are too rare to be harvested and traded in large quantity.

Rosewood in Vietnam are harvested for both domestic use and international trade where most of these purchases are illegal. Rosewood is primarily used for high-end furniture and by the wood carving industry that targets mostly Vietnam's neighboring countries. Under the national regulations, some species of rosewood that are endemic and having high conservation values are listed as national protected species. These include yellow rosewood (*D. tonkinensis*) where its wild population is prohibited to be exploited and used for commercial purpose; and other species such as the Anamneses rosewood (*D. annamensis*), Siamese rosewood (*D. cochinchinensis*), and Vietnamese rosewood (*D. oliveri*) where their use for commercial purpose is restricted.

Rosewood is not only heavily harvested and illegally traded, but is also one of the most unreported and undocumented plants in trade. There is no official information or record on wild harvest and trade in the species or any national efforts taken to record the harvest and monitor the trade in these timbers, information on harvest might be available in some locations when the illegal trade was spotted and when seizure was made. However, there is no systematic record at national level and NDF has not yet implemented for any rosewood species in Vietnam. CITES trade information is the only available information but it only records the international trade through the permitting system. In addition, there is no conservation plan and management mechanism to ensure suitable protection and sustainable harvest, trade and record in this group of plants in Vietnam.

Therefore, there is a gap in the management of this species in Vietnam and an urgent need for consolidation and improvement of the management. This information will create a practical management mechanism to ensure proper conservation, and effective management. Besides having a good conservation plan and management system, building strong capacity for those who are involved in managing the species is important to ensure that the management regime will be implemented and sustained in the long term.

2.2. Intended situation after Project completion

By addressing the challenges in the management of the rosewood several outcomes are anticipated, as follows:

- Data on trade, harvest and actual conservation efforts for *D. cochinchinensis* and *D. oliveri* available to support better conservation and management of trade and harvest.
- A completed non-detrimental findings assessment for the two most harvested and traded rosewood, namely, *D. cochinchinensis* and *D. oliveri* in Vietnam. Recommendations for

trade management, improvement of record and conservation will be implemented at both the national and site levels.

- A conservation plan for *D. cochinchinensis* and *D. oliveri* available to direct the conservation efforts for the species, especially for their wild populations.
- Four key conservation sites for *D. cochinchinensis* and *D. oliveri* will receive technical support to improve their rosewood conservation efforts.
- Threats to wild populations of rosewood will be effectively mitigated through a good management regime.
- Central and local management authorities will be properly trained about rosewood conservation and receive supporting materials, such as a rosewood identification manual to assist them in the management, trade control and recording efforts.
- The project lessons learnt and best practices will help the policy and regulations amendment process with more effective regulations adopted to better control the harvest and trade, and more importantly, to properly record the harvest and trade in endangered plants and other CITES-listed species.

2.3 Target beneficiaries

The results of the project will help the CITES MA Vietnam to fulfil its CITES's requirements in managing effectively species listed in the CITES Appendices, including having a NDF for the two most traded rosewood, *D. cochinchinensis* and *D. oliveri*, and a conservation plan and good management system in place.

The project outputs will also assist the Vietnamese Government (state conservation, Forest Protection Department of Vietnam, and Customs) in building staff capacity to control, monitor and record the trading activities, and to identify threats to assist in effective management of endangered rosewood species, especially for *D. cochinchinensis* and *D. oliveri*.

Information and lessons learnt from the project will benefit the state agencies with their amendment process of national laws and in improving the regulation framework for the management of endangered plants and wildlife.

The project's outcomes, good practices and experiences will be well-documented and shared with a broader audience. Furthermore, the project outcomes will contribute in enhancing policy and regulatory changes in natural resources management policy and regulatory frameworks in the long term.

2.4 Risks

The information on the wild population, trade, and harvest of *D. cochinchinensis* and *D. oliveri* is very scattered and difficult to collect. The implementation team, therefore, will need to have a comprehensive plan to review and collect all available information from different sources and locations, including implementing field surveys to collect the necessary information.

Currently, the harvest of and trade in rosewood are highly sensitive and secretive because the wood is a lucrative contraband. In particular, the international trade in rosewood mainly takes place through illegal or informal operations. As they are not licensed and unreported, there are major challenges in getting the correct information on the level of trade, trade chain and associated threats. The project therefore will need a well-planned scheme and adaptive approach to collect accurate information. As the goal is to support stakeholders, a mutual trust between the project and the harvesting/trading community must be established. This interaction can be formed by explaining the project approach and objectives to the community, stakeholders. In this way,

relevant participants will regard the project as a source of support to maintain sustainable and long-term harvesting and trade in rosewood.

3. Outputs

3.1. Objective 1. To formulate a non-detrimental findings report and support the implementation for *D. cochinchinensis* and *D. oliveri* in Vietnam.

Output 1.1. *A NDF report fully implemented for *D. cochinchinensis* and *D. oliveri* in Vietnam, and recommendations provided to support better management and enforcement in Vietnam.*

Output 1.2. *Capacity of local authorities and management agencies enhanced.*

3.2. Objective 2. To develop and pilot a long-term conservation plan for *D. cochinchinensis* and *D. oliveri* in Vietnam.

Output 2.1. *A rosewood management and conservation plan prepared for *D. cochinchinensis* and *D. oliveri*.*

Output 2.2. *A management and conservation plan for *D. cochinchinensis* and *D. oliveri* piloted in four key sites in Vietnam implemented.*

3.3. Objective 3. To develop a rosewood identification manual to support identifying, tracking and managing the harvest and trade more effectively.

Output 3.1. *A rosewood identification manual available to support management and enforcement.*

4. Activities

Output 1.1. A NDF report fully implemented for *D. cochinchinensis* and *D. oliveri* in Vietnam, and recommendations provided to support better management and enforcement in Vietnam.

Activity 1.1.1. Conduct a detail literature review on the taxonomy, biology, ecology, and the status, trend and population structure and dynamics of *D. cochinchinensis* and *D. oliveri* in Vietnam.

Activity 1.1.2. Assess the current management practices and conservation status of *D. cochinchinensis* and *D. oliveri* for 6 provinces.

Activity 1.1.3. Review the current harvest control and monitoring of *D. cochinchinensis* and *D. oliveri* in Vietnam.

Activity 1.1.4. Undertake a systematic field survey on the population distribution, abundance, and stocking of *D. cochinchinensis* and *D. oliveri* for the 4 key protected areas in Vietnam.

Activity 1.1.5. Conduct spatial analysis and prepare distribution maps of *D. cochinchinensis* and *D. oliveri* in Vietnam.

Activity 1.1.6. Convene a technical discussion and workshop to discuss the draft NDF report for *D. cochinchinensis* and *D. oliveri* in Vietnam and finalize the report.

Implementation method.

A team that is led by the Project Conservation Biologist, and 4 other members, including the Forest Management Specialist, the Plant Conservation Specialist, the Timber Management/Trade Specialist, and the Botanist, in collaboration with local foresters and rangers from the Vietnam Administration of Forestry (VNforest), will review all reports and information on rosewood that were documented in previous research, inventory, and conservation projects for rosewood in Vietnam. The information collection will focus on rosewood distribution, their current extent (area), estimated timber volume, information on logging, harvest, and trade to date at known localities from both the government (CITES system, Forest ranger, Forest Inventory database) and non-government sources. The review and collection will focus on the information for *D. cochinchinensis* and *D. oliveri*.

The expert group that is led by the Forest Management Specialist and 2 other members, including the Project Conservation Biologist and the Timber Management/Trade Specialist, will then visit 6 provinces, known as the key areas for the two species in Vietnam (Kon Tum, Gia Lai, Dak Lak, Lam Dong, Binh Phuoc and Dong Nai), to discuss with local forestry departments, timber/forest companies, forest ranger offices in the protected areas on the current management practice for rosewood and information on threat, harvest, trade and conservation efforts that have been done to date for the species in the provinces.

The team with 4 persons that is led by the Project Conservation Biologist and 2 others (Forest Management Specialist, and the Timber Management/Trade Specialist) will work in 4 protected areas which have been designated as rosewood conservation sites in Vietnam (Dak Uy, Yok Don, Bu Gia Map and Cat Tien) to assess in detail the current management practices and conservation status of *D. cochinchinensis* and *D. oliveri*. As the four protected areas cover an area of approximately 200,000 ha where both *D. cochinchinensis* and *D. oliveri* are found naturally, then at least an area of 10,000 ha (cover 5% of each protected areas) will be systematically survey to collect detailed information on rosewood density, status of their natural population, regeneration, natural stocking (by measuring all identified tree with diameter >20 cm), stand size and structure and collecting information on threats and conservation practices that are currently applied in the 4

key areas. The team will also hold discussion with managers involved in forest protection and local community on what needs to be done to assist them to manage the wild population more effectively.

Based on the review and field survey information collected, the team will work with the GIS Specialist to analyze and collate the information to prepare current distribution maps of *D. cochinchinensis* and *D. oliveri* in Vietnam.

All the information and maps will be shared at 2 technical discussions to solicit feedback on the reviewed and collected information and the maps before using them to prepare the NDF report. Technical discussion 1 will focus on reviewing data on rosewood harvest and trade, as well as threat to rosewood in Vietnam. Technical discussion 2 will focus on inventory findings and recommendations for rosewood management for the 4 selected conservation sites.

Verified and consolidated data will then be used to prepare a NDF report for *D. cochinchinensis* and *D. oliveri* following the CITES's NDF approach and guidelines, especially the current guidance in Annex 2 of document CoP15 Doc.16.3 (<http://www.cites.org/eng/cop/15/doc/E15-16-03.pdf>).

As soon as the NDF report is available, consultation workshop will be organized to share the draft NDF and to solicit feedback from relevant stakeholders, including the CITES MA, SA, local NGOs, enforcement officers, traders, harvesters and other plant and timber management experts. Based on the comments and feedback provided during the consultation workshop, the team will revise and amend the report before submitting it to the CITES MA and SA for final review and approval.

Output 1.2. Capacity of local authorities and management agencies enhanced.

Activity 1.2.1. Organize a training workshop for local authorities and management agencies to share NDF's recommendations and guidance for implementation of the recommendations at local level.

Implementation method.

Based on the final version of the NDF with its recommendations, the Forest Management Specialist will then lead a team comprising the Project Conservation Biologist, the Timber Management/Trade Specialist and the CITES Management Expert, to organize a training workshop for selected participants from key management and enforcement bodies, including the CITES MA staff, local forest rangers and staff of protected areas which have been identified as rosewood distribution areas and important conservation sites; and customs officers at key borders/ports that have rosewood import/export. The training will provide participants with updated information on the conservation status, current harvest, threats to the rosewood species, management requirements needed (national and international regulations on rosewood harvest and trade) to ensure that the wild population will be secured, and how rosewood harvest and trade will be monitored and documented properly according to international standards.

Output 2.1. A rosewood management and conservation plan prepared for *D. cochinchinensis* and *D. oliveri*.

Activity 2.1.1. Prepare a conservation and management plan.

Activity 2.1.2. Convene a consultation workshop with stakeholders to discuss and finalize the plan.

Implementation method.

A team of expert that is led by the Forest Management Specialist in collaboration with the Project Conservation Biologist, the Plant Conservation Specialist and the Botanist from the SA will work closely with VNforest, the CITES Management Expert, the Vietnam Wood and Timber Association

to draft the conservation plan based on the review and field information collected. The plan might focus but not limited to the following themes: (i) improve understanding on the population and trend of wild rosewood; (ii) improve accountability of harvest and trade, (iii) strengthen enforcement and counter illegal trade, consumption of rosewood; (iv) improve the protection and conservation of wild population and regeneration of rosewood in their known habitats; (v) strengthen study and information sharing with other neighboring countries and CITES' Parties; and (vi) improve capacity on rosewood management and conservation for relevant stakeholders.

As soon as the draft plan is available, a consultation workshop will be organized between the drafting team and relevant stakeholders, including the CITES MA, SA, local NGOs, protected area staff, enforcement officers, traders, harvesters, timber management experts to discuss and comment on the draft plan. Based on the comments and feedback provided during the consultation workshop, the team will revise and finalize the plan before submitting to VNForest for final review and approval.

Output 2.2. A management and conservation plan for *D. cochinchinensis* and *D. oliveri* piloted in four key sites in Vietnam implemented.

Activity 2.2.1. Convene a training to support the 4 conservation sites to pilot the implementation of the management and conservation plan for *D. cochinchinensis* and *D. oliveri* with emphasis on the wild population.

Activity 2.2.2: Conduct a national workshop to disseminate information and lessons learnt to relevant stakeholders on piloting the implementation of the conservation and management plan.

Implementation method

There is a big gap in equipping necessary information for those involve in the harvest, trade, and management of rosewood. For instance, no training was convened for provinces and sites where rosewood naturally occur to assist them on how to manage the wild population and regeneration, and to ensure effective enforcement. The project will ensure that appropriate technical support will be provided for the provinces, especially the four key rosewood conservation sites to enable them to manage and facilitate the recovery of their wild rosewood population in the long term. The technical support will include training (during the project), and technical support (after the project completion) for updating information, preparing management plan for natural stand and piloting conservation efforts, including rosewood nursery for replanting and enrichment of the rosewood stand in the conservation sites.

One rosewood conservation training will be organized for selected staff from the 4 conservation sites (rangers, technical staff). The training will focus on how to do a detail survey for wild rosewood population monitoring and implementing necessary measure for rosewood conservation. The project Conservation Biologist will work with the Forestry Management Specialist and the Plant Conservation Specialist to conduct the training and assist the technical staff of the sites to implement (i) survey to estimate the rosewood population, density, stand structure and volume and identify associated management an conservation issues; and (ii) prepare a conservation program including a plan to monitor the population and their annual growth, a plan to mitigate threats, and a plan to recover rosewood population (artificial propagation, re-planting, etc.). The activity will be implemented as an on-the-job training activity to ensure that the staff of the sites will be fully assisted and coached by a group of 3 experts that is led by the Forest Management Specialist, the Project Conservation Biologist and the Botanist from the SA. This support aims to guarantee that the staff of the sites will have sufficient capacity to execute the plan by themselves and in the future for the rosewood and for other threatened species as well.

A national workshop will also be conducted to disseminate information and lessons learnt to all relevant stakeholders on piloting the implementation of the conservation and management plan. The Project Conservation Biologist in collaboration with the CITES Management Expert, the Botanist, the Forest Management Specialist, and the Timber Management/Trade Specialist who

assisted in the project's trainings and in providing technical support to document all materials related to training, technical guidelines, and identification manual will make them available to the workshop and to the CITES MA and VNforest's websites. The workshop will focus on sharing the NDF report and its findings, *D. cochinchinensis* and *D. oliveri* conservation plan, and what activities the project has done to support the implementation of the NDF's recommendations and the plan, as well as to advocate for further regulations amendment to ensure that rosewood will be more effectively managed, and their natural populations will be protected more effectively.

Output 3.1. A rosewood identification manual available to support management and enforcement.

Activity 3.1.1. Collect and collate information and prepare the rosewood identification manual.

Activity 3.1.2. Conduct a training workshop to train management and enforcement officers to effectively use the rosewood identification manual.

Implementation method

The Project Team Leader and the Project Conservation Biologist will work with the Research Institute of Forest Industry to ensure that the identification manual will be well prepared in a good quality and according to the requirement and timeframe of the project. It will then be used to support enforcement and management of rosewood, especially for the monitoring of harvest and trade.

The Manual will be fully illustrated and printed in color to help species identification using leaves, and microscopic key for timber and timber products. The illustration and description will include features which can be directly observed without the aid of a microscope for detailed microscopic features for identification. In general, the team will use all standard features mentioned in the International Association of Wood Anatomists (IAWA). For each rosewood species, before a description of properties, the standard trade name (Vietnamese and English) and vernacular names will be given in accordance with national and CITES standards. The Manual will be produced in both hardcopy and as an Apps that could be downloaded and installed in smartphone for practical and easy look-up and use by enforcement officers in the field. The Manual will be developed with close reference to other identification manuals that have been developed for *Dalbergia* species in Thailand, Cambodia and Lao PDR.

Based on the developed Manual and the availability of other rosewood conservation training materials, a rosewood training workshop will be organized for selected staff from law enforcement bodies, such as rangers, customs officers and other provincial forestry management officers from the key rosewood distribution and key processing areas, as well as and from key export ports. The Project Conservation Biologist will work with the CITES Management Expert, and staff of the Research Institute of Forest Industry to lead the training and the delivery of training materials, including the Identification Manual, conservation status of rosewood, national and international regulations and procedures for rosewood harvest and trade, and management. During the training, a list of plant and timber experts with detailed contacts will also be provided to participants so that they could contact them for assistance in the future, if needed.

5. Work Plan

The Work Plan for the project is as presented in **Table 1**.

Table 1. Work Plan

Output/activities	Responsible party	Month of project implementation (24 months)																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Project start-up (administration process, and planning).	- Project team leader, Project accountant	█	█																						
Project quarterly report.	- Project team leader, Project conservation biologist			█			█			█					█			█				█			
Project annual and final report.	- Project team leader, Project conservation biologist, - Project accountant											█													█
Project M&E.	- Project team leader, - Project Conservation biologist, - Project accountant											█													█
Output 1.1. A NDF report fully implemented for <i>D. cochinchinensis</i> and <i>D. oliveri</i> in Vietnam, and recommendations provided to support better management and enforcement in Vietnam.																									
<i>Activity 1.1:1. Conduct a detail literature review on the taxonomy, biology, ecology, and the status, trend and population structure and dynamics of <i>D. cochinchinensis</i> and <i>D. oliveri</i> in Vietnam.</i>	- Project conservation biologist, Forest management specialist, - Plant conservation specialist, - Botanist			█	█	█	█	█	█	█	█														
<i>Activity 1.1.2. Assess the current management practices and conservation status of <i>D. cochinchinensis</i> and <i>D. oliveri</i> for 6 provinces</i>	- Project conservation biologist, - Forest management specialist,			█	█	█	█	█	█	█															

Output/activities	Responsible party	Month of project implementation (24 months)																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	- Plant conservation specialist, - Botanist																								
<i>Activity 1.1.3. Review the current harvest control and monitoring of D. cochinchinensis and D. oliveri in Vietnam.</i>	- Project conservation biologist, - Forest management specialist, - Timber management/trade specialist, - Botanist, - Project team leader																								
<i>Activity 1.1.4. Undertake a systematic field survey on the population distribution, abundance, and stocking of D. cochinchinensis and D. oliveri for the 4 key protected areas in Vietnam.</i>	- Project conservation biologist, - Forest management specialist, - Timber management/trade specialist, - Botanist																								
<i>Activity 1.1.5. Conduct spatial analysis and prepare distribution maps of D. cochinchinensis and D. oliveri in Vietnam.</i>	- Project conservation biologist, - Forest management specialist, - GIS specialist, - Botanist																								

Output/activities	Responsible party	Month of project implementation (24 months)																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
<i>Activity 1.1.6.</i> Convene a technical discussion and workshop to discuss the draft NDF report for <i>D. cochinchinensis</i> and <i>D. oliveri</i> in Vietnam and finalize the report.	- Project Conservation biologist,																								
	- Forest management specialist,																								
	- Timber management/trade specialist,																								
	- Project team leader																								
Output 1.2. Capacity of local authorities and management agencies enhanced.																									
<i>Activity 1.2.1.</i> Organize a training for local authorities and management agencies to share NDF's recommendations and guidance for implementation of the recommendations at local level.	- Project team leader,																								
	- Project conservation biologist,																								
	- Forest management specialist,																								
	- Timber management/trade specialist																								
Output 2.1. A rosewood management and conservation plan prepared for <i>D. cochinchinensis</i> and <i>D. oliveri</i>.																									
<i>Activity 2.1.1.</i> Prepare a conservation and management plan.	- Project team leader,																								
	- Project conservation biologist,																								
	- Forest management specialist,																								
	- Plant conservation specialist,																								

Output/activities	Responsible party	Month of project implementation (24 months)																							
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	- Botanist																								
Activity 2.1.2. Convene a consultation workshop with stakeholders to discuss and finalize the plan.	- Project team leader, - Project conservation biologist, - Forest management specialist, - Plant conservation specialist																								
Output 2.2. A management and conservation plan for <i>D. cochinchinensis</i> and <i>D. oliveri</i> piloted in four key sites in Vietnam implemented.																									
Activity 2.2.1. Convene a training to support the 4 conservation sites to pilot the implementation of the management and conservation plan for <i>D. cochinchinensis</i> and <i>D. oliveri</i> with emphasis on the wild population.	- Project conservation biologist, - Forest management specialist, - Plant conservation specialist, - Botanist																								
Activity 2.2.2. Conduct a national workshop to disseminate information and lessons learnt to relevant stakeholders on piloting the implementation of the conservation and management plan.	- Project team leader, - Project conservation biologist, - Forest management specialist, - Plant conservation specialist, - Botanist																								

Output/activities	Responsible party	Month of project implementation (24 months)																								
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Output 3.1. A rosewood identification manual available to support management and enforcement.																										
Activity 3.1.1. Collect and collate information and prepare the rosewood identification manual.	Project team leader, Project conservation biologist, Sub-contractors																									
Activity 3.1.2. Conduct a training workshop to train management and enforcement officers to effectively use the rosewood identification manual.	- Project conservation biologist, - Forest management specialist, Plant conservation specialist																									

7. Sustainability of outputs after project completion

The executing/implementing agency, the Center for Nature Conservation and Development (CCD), will work simultaneously with both the central and local government partners to ensure that the project will be endorsed by the government agencies and all project outputs will be integrated into the Government management system.

- The availability of the NDF for the most traded species in Vietnam will be one of the long-term sustainability of the project outputs as it will help Vietnam to comply with CITES regulation and also in improving the CITES implementation capacity of the country and its scientific institutions. The NDF information and recommendations will also help Vietnam to strategize its management regime for rosewood more effectively in the long term.
- Government staff (foresters, forest rangers, customs officers) trained by the project will use their knowledge and skills to train other staff and colleagues and implement more effective rosewood harvest and trade management.
- The rosewood conservation plan will be used as a guideline to coordinate the rosewood conservation and management in Vietnam.
- The four rosewood conservation sites with technical support from the project and their trained staff will manage wild rosewood populations more effectively in the long term.
- Capacity of both management and scientific institutions will be strengthened in doing research and managing endangered plants and CITES-listed species more effectively.
- The Vietnam Forestry Administration will continue to train and assist the four rosewood conservation sites and other sites to implement monitoring and recovery program for *D. cochinchinensis* and *D. oliveri*, and other rosewood species using state budget.
- The Vietnam Forestry Administration will also continue to train foresters and rangers, and customs officers on rosewood conservation annually by using the project's materials and identification manual.
- The best practices and lessons learnt from the project will be used to support the development and amendment of national laws and regulation on endangered timber tree conservation and management.

PART III: OPERATIONAL ARRANGEMENTS

1. Management Structure

In supporting the project implementation, a Project Steering Committee will be established to supervise the project implementation (see **Figure 1**). Wherever is possible or relevant, a Steering Committee member involving in the implementation of activities will chair technical meetings, conduct dialogues, participate in trade discussions, and review project reports (technical reports, progress reports, and final report). The Project Steering Committee will comprise 5 members who will represent the CITES Management Authority Vietnam, the CITES Scientific Authorities Vietnam, and the Executing Agency (CCD).

The Centre for Nature Conservation and Development (CCD) will be the project's executing/implementing agency. The CCD will cooperate closely with the CITES MA and CITES SAs to manage and implement the project activities under the supervision of the Steering Committee.

Implementation of project activities will also have direct support from the CITES MA and CITES SA through their assigned staff (Botanist and Management Expert) to support the project implementation. The staff time of both MA and SA will be covered by the State Budget. The CITES MA and CITES SA will allow the project to use their facility to implement the project, including meeting room, field equipment for field survey and data collection.

The project will involve relevant specialists and private sector partners and other scientific institutions to implement the project activities.

The role and responsibility of project staff and involved personnel in the project is as in **Table 3**.

Figure 1. Project Implementation Structure

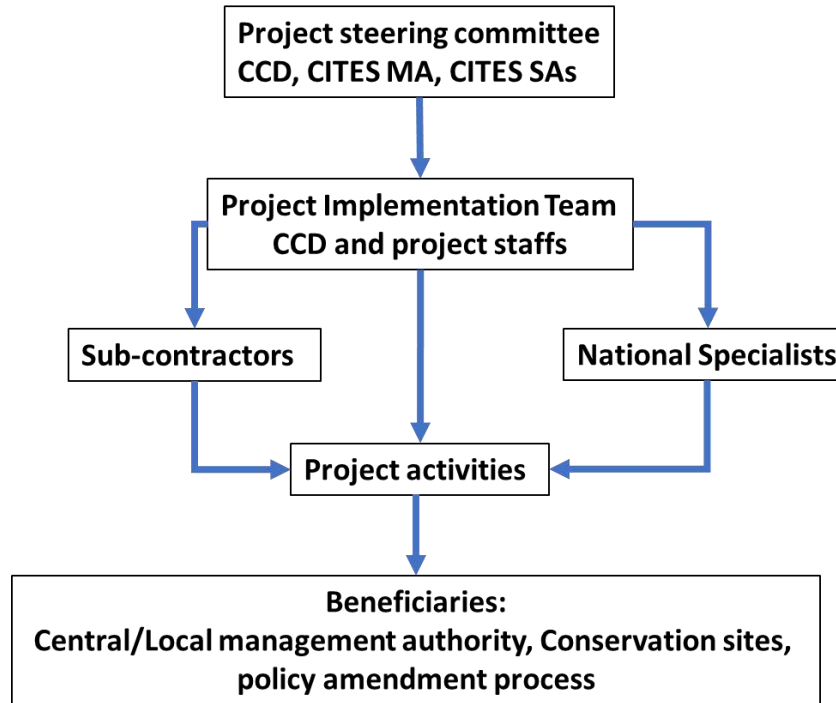


Table 3. Role and responsibility of project staff and involved personnel

Name/position	Role in the project implementation
Project Team Leader	<p>The Project Team Leader will play as a focal point of the project in communication with the CITES MA, the CITES Secretariat and the CITES Tree Species Programme. The project leader will supervise project' staffs and supervision of the project implementation and reporting, including:</p> <ul style="list-style-type: none"> - Review work plans - Review progress reports - Review and consolidating technical data and reports (data gathering, NDF preparation, action plan preparation, training materials) - Supervise the project operation and management effort and management of staff's times - Administratively supervise short-term consultants and sub-contractors, including review & approval of ToRs and deliverables based on technical approval of the project technical staff - Communicate and coordinate with the CITES Tree Species Programme's Coordinator and Regional Coordinator on project implementation
Project Conservation Biologist	<p>The Project Conservation Biologist is a full-time technical staff of the project. The technical person will lead the technical components and support the Project Team Leader and Project Co-Team Leader to manage the project, including preparing project quarterly and annual work plans, progress reports, and day-to-day managing the project operation. The Project Conservation Biologist's detailed tasks include:</p> <ul style="list-style-type: none"> - Preparing detailed work plans of the project - Preparing progress reports, technical reports

Name/position	Role in the project implementation
	<ul style="list-style-type: none"> - Leading the implementation of the project's technical components in collaboration with other project team members, consultants and central and local Government's counterparts to: <ul style="list-style-type: none"> o collect and review secondary information and data o lead the field survey and collect information in the provinces and conservation sites o prepare the NDF and conservation plan o prepare and finalize plan and material for workshops, discussions and trainings o organize and facilitate project's technical workshops and discussions o organize and lead project trainings for central and local counterparts - Technically supervise national consultants and sub-contractors and review, and approve technical outputs of their assignment, - Assist the Project Team Leader to supervise project's day-to-day operation and management - Support the Project Accountant to manage the project's financial matters - Support the Project Team Leader in other project management and communication matters
CITES Management Expert – Project Co-Team Leader	The CITES Management Expert is a staff from the CITES MA that's assigned to support the project implementation. The expert will act as the Project Co-Team Leader/Alternative Focal Point of the project in communication with the CITES MA, the CITES Secretariat and the CITES Tree Species Programme. The CITES Management Expert will

Name/position	Role in the project implementation
	<p>work with the Project Team Leader to support the project implementation, including:</p> <ul style="list-style-type: none"> - Review information relate to rosewood trade and management in Vietnam - Contribute in preparing the NDF report and management plan - Participate and facilitate discussion at technical meetings, and workshops to finalize the NDF report and management plan - Share information at trainings that are organized by the project
Botanist - CITES MA	<p>The Botanist is a staff from the CITES SA who is assigned to support the project implementation. The Botanist will support project in:</p> <ul style="list-style-type: none"> - Participate in reviewing information related to rosewood trade and management in Vietnam - Participate in the field work to collect information for the preparation of the NDF and management plan - Contribute in preparing the NDF report and management plan - Participate and facilitate discussion at ethical meeting and workshop to finalize the NDF report and action plan - Share information and knowledge at trainings that are organized by the project
Project Accountant	<p>The Project accountant is a project full-time project staff who will manage all the financial matters and support other team members to implement the technical components of the project</p> <p>The Project Accountant will also help the Project Team Leader to prepare financial reports and implement project management matters to meet the CITES/EU's project management requirement.</p>
Forest Management Specialists (short-term)	<p>The Forest Management Specialists (could be more than one person) will work with the Project Conservation Biologist and other national specialists to support the project in reviewing information, visiting the</p>

Name/position	Role in the project implementation
consultant)	provinces and conservation sites to collect information for the NDF and management plan preparation. The consultant(s) will be involved in most of the project's trainings and workshop to share the information, finalize documents and transfer skill and knowledge to participants in the project's trainings and technical support efforts.
Plant Conservation Specialist (short-term consultant)	The Plant Conservation Specialists with the support of the Project Conservation Biologist and other consultants will support the project in reviewing information, visiting the provinces and conservation sites to collect information for the preparation of the NDF report and management plan. The Specialist will also be involved in most of the project's trainings and workshops to share the information, finalize documents and transfer skill and knowledge to participants in the project's trainings and technical support efforts.
Timber Management/Trade Specialist (short-term consultant)	The Timber Management/Trade Specialist with the support of the Project Conservation Biologist and other consultants will review rosewood trade data, and contribute in the preparation of the NDF report and management plan. The Specialist will also be involved in project training to transfer skill and knowledge to participants on timber trade/management issues.
GIS Specialist (short-term consultant)	The GIS Specialist will work with the Project Conservation Biologist and collaborate with other consultants to develop and finalize rosewood distribution maps.

2. Monitoring, Reporting and Evaluation

Project progress report

- Monthly progress report updating project's activities will be prepared by CCD and reviewed by the Project Steering Committee before submitting it to the CITES Secretariat through the Regional Coordinator for Asia.
- Biannual progress report including both project's activity and financial situation will be prepared by CCD and reviewed by the Project Steering Committee before submitting it to the CITES Secretariat through the Regional Coordinator for Asia.

Project Completion Report

Within two months of the project's completion, a Project Completion Report comprising a Technical Report and a Financial Report highlighting, among others, the project's expenditures and balance will be prepared, reviewed and submitted to the CITES Secretariat through the Regional Coordinator for Asia.

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Annex 2. Brief introduction of the Executing/Implementing Agency

The **Center for Nature Conservation and Development (CCD)** is a national research and conservation institution that works specifically in addressing the biodiversity conservation and development challenges. The CCD aims to become a leading conservation and development institution in Vietnam that supports the government and local community to protect the biodiversity richness and to gain its sustainable development goal. The CCD work focuses on building capacity of different stakeholders (government, private sector and community) on biodiversity conservation, sustainable development, climate change adaptation and environmental education. Improving its conservation and development success, the Center priorities its work focusses on: biodiversity inventory and monitoring; improve and strengthen protected area management; combating wildlife trafficking; mitigation of human-wildlife conflict; sustainable forest and natural resources management; empower local community and facilitate their involvement in biodiversity, and sustainable forest management.

Vision: Sustainably conserve the biodiversity richness, ensuring quality of life and sustainable development.

Mission: The Center for Nature Conservation and Development's mission is to stop the loss of biodiversity and degradation of environment; empowering local community in natural resources and environment management; and supports sustainable development.

Areas of operation

- Research and application of sustainable solutions to such fields as nature and biodiversity conservation, environment protection; maintaining and restoring ecological ecosystems; sustainable management and use of natural resources; protected area management; and climate change adaptation.
- Building and operating pilot models/areas for biodiversity conservation; protected area management; ecotourism; sustainable development and climate change.
- Providing science and technology services: provision of consultancy services, critical assessment, evaluation, organizing training, seminars and conferences in the above-mentioned areas of research; dissemination of knowledge and information, and raising awareness on biodiversity conservation.

Focus habitat and species

Habitat - protection and sustainably manage of globally important habitat including forest on limestone; evergreen tropical monsoon forest in lowland; Indo-chinese dry dipterocarp forest; grassland, and wetland.

Focus species of animal - protection and recovery of globally endangered habitat and species that are endemic to the Indochina region and Vietnam, specifically, tiger, Asian elephant, big cats, endangered ungulates; and threaten birds and reptiles.

Focus species of plant - protection and recovery of endangered plants, especially for the species that are threatened by illegal trade and illegal logging, including orchid, rosewood, agarwood and other threatened medicinal plants.