

ANNEX A Project

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

Submitted by: Forestry Administration, Cambodia

Endorsed by the Management Authority of Cambodia

TITLE of Activity:

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.

SUMMARY:

Goal: The goal of the project is to ensure the survival and sustainable management and expand the area of *D. cochinchinensis* and *D. oliveri* in Cambodia.

Objective: The objective of the project is to 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.

Outputs: The two outputs of the project are as follows:

- (i) guidelines and incentives to encourage the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri* are developed and endorsed.
- (ii) a non-detriment findings report on *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district of Preah Vihear province is prepared.

EXECUTING/IMPLEMENTING AGENCIES: The Department of Forest Plantations and Private Forest Development and the Department of Wildlife and Biodiversity in the Cambodia Forestry Administration.

COLLABORATING AGENCY: Cambodia CITES Management Authority and local and regional Cambodia Forestry Administration offices.

DURATION (months): 18 months.

PROPOSED START DATE: 1 May 2019.

BUDGET AND PROPOSED SOURCE OF FINANCE:

PART I: CONTEXT

Origin/Background

Cambodia's forest cover has undergone significant changes over the past decades, declining from 13.23 million ha, or 73% of the country's land area in 1965 to 8.99 million ha, or 49% of the country's land area, in 2014. These changes have occurred in the context of civil war and social unrest, agricultural expansion, the evolving role of forest resources in development, and illegal logging. The average annual deforestation rate between 2010 and 2014 was 1.4%, representing almost three times the 0.5% rate that was recorded during the period between 2006 and 2010. The increase in the country's population from 6.46 million people in 1965 to 15.37 million people in 2014 underscores the decline in per capita forest area that has occurred during intervening years.

Cambodia's natural forests, where these declines have occurred, have been under the management of the state and until recently there was limited recognition and encouragement associated with the establishment of private forest plantations. This has discouraged the private sector, as well as those small-scale farmers who, except for their concern over ownership claims and use rights, might otherwise have invested in such plantations. There is increasing recognition of the difficulties that are associated with reliance on government funding for reforestation and forest restoration activities that limit the application of those activities to a relatively small proportion of the country's degraded forestlands. There is a new resurgence in interest to integrate an approach into forest landscape restoration activities that would arouse the private sector, small-scale farmers, and financial institutions – the latter of which have heretofore lacked collateral assurances from the government for loan programs - to invest in forest plantations.

The principal elements of the approach were recently espoused when the country's first Declaration on Private Forests with the avowed aims of promoting public-private-farmer partnerships for establishing small- and medium-scale forest plantations and increasing forest cover throughout the country was promulgated. The effective implementation of the Declaration requires an enabling environment which would include the establishment of practical guidelines and incentives for registering small-scale private forest plantations accompanied by awareness raising campaigns and stakeholder consultations, as well as the piloting of private small-scale forest plantations. The institutionalization of an environment conducive to the establishment of small-scale private forest plantations represents an approach that integrates stakeholders into the affected land-use sector in participatory decision-making processes.

It is in recognition of these developments that the project for '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' is proposed. It was developed to coincide with the assorted factors of success that accompanied the favorable phasing associated with the recent promulgation of the government's Declaration on Private Forests. In this regard, the Declaration would define the conditions required for registering small-scale forest plantations and raising public awareness of those conditions among potential private sector and small-scale farmers interested in investing in small-scale forest plantations. The emphasis of the proposed project on the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri* is a response to the illegal logging of the species that has been occurring throughout Southeast Asia, which accentuates the relevance to the project of both the CITES Tree Species Programme and the listing of endangered tree species in CITES Appendix II.

There are 292 species of *Dalbergia* currently included in the CITES Appendices, although the taxonomy with regard to the species is rather complex since there are many sub-species and varieties and the number of *Dalbergia* species has yet to be resolved. There are

indications that 32 of 64 timber-producing species of *Dalbergia* are currently present in international trade (UNEP-WCMC. 2017).

There are two species of *Dalbergia* that are native to Cambodia. These species are *D. cochinchinensis* and *D. oliveri*, which is sometimes referred to as *D. bariensis*. There are several similarities in the characteristics of these two species, each of which is considered to be a 'precious wood' which is highly valued in international trade for a range of inherent qualities, but especially for the prominent coloration of the venation of the species' heartwood. *D. cochinchinensis*, which is a large evergreen tree reaching 25-30 m in height and producing boles of up to 60 cm in diameter, usually occurs sparsely in Cambodia in open and semi-deciduous (semi-evergreen) forests at elevations of 400-500 m above sea level (a.s.l). It prefers deep sand, clays, or calcareous soils and uniform rainfall that ranges from 1200-1650 mm per year, as well as high amounts of light, to thrive. It is drought tolerant and it is able to grow on most soils. *D. oliveri*, which reaches 20-25 m in height and produces boles from 50-60 cm in diameter, occurs individually, or in groups of 5-10 trees, in evergreen or semi-deciduous (semi-evergreen) forests that are dominated by *Lagerstroemia* and various dipterocarp species. It usually occurs at elevations below 900 m a.s.l in moist areas, along streams and rivers, and on hillsides. It is able to tolerate some shade at an early age, but prefers light.

D. cochinchinensis and *D. oliveri* are representative of several species of *Dalbergia*, which together with a few other genera are commonly referred to in international trade as rosewood. The wood of these 'precious wood' species is the traditional wood used in the construction of elite, classic-style "hongmu" furniture in China. That wood has been reported to be sold for 10,000-20,000 or more US dollars per m³. It is as the result of the expansive growth in demand associated with this end use that the market for rosewood in China has increased dramatically since 2005. Indeed, the legal trade has multiplied 65 times in value and it is currently worth 2.2 billion US dollars a year. The 2 million cubic meters of rosewood logs and wood that were imported by China as recently as in 2014 had accounted for the harvesting of millions of rosewood trees since it is only the dark, dense heartwood of the tree that is used in the making of the furniture while 70-80% of the tree is often discarded as waste.

Responding to this increased demand, traffickers have been expanding their sources of rosewood and are currently targeting more than 80 other countries across the tropics where rosewood species grow, particularly in West Africa, but also in Central America. Indeed, China's rosewood imports from Africa soared seven-fold between 2010 and 2014 with 216 million US dollars' worth of West African rosewood imported in the first half of 2016 alone. Rosewood has now become the world's most trafficked wild product according to the United Nations Office of Drugs and Crime and currently accounts for one-third of all such seizures by value, which is more than that of elephant, pangolins, rhinoceros horn, lions, and tigers combined. CITES has now placed the 300 species of rosewood, including *D. cochinchinensis*, and *D. oliveri*, under trade restrictions, which means that criminals may no longer pass off illegally-logged species as legitimate.

The illegal logging and trafficking of *D. cochinchinensis* and *D. oliveri* associated with Cambodia has several transboundary connections that culminate in the market in China. This is reflected in the volume of Vietnam's imports of logs and sawnwood from Cambodia. That country's imports of logs according to the General Department of Vietnam customs increased from 383 m³ in 2014 to almost 58,000 m³ in 2015, with most of those logs sourced from land that was cleared to establish industrial-plantations in economic land concessions in Cambodia (To *et al.*, 2016). The rapid increase in the volume of those exports underscores concerns with the legal ramifications associated with the pairing of the exports of 'conversion logs' with counterfeit export permits. Sales invoices from Cambodian companies and Vietnam import statistics that were published by the United Kingdom-based Environmental Investigation Agency have indicated, as well, that the value of Cambodian timber imported by Vietnam between January 2016 and March 2017 was about 300 million US dollars. These matters are particularly troubling with regard to exports of *D. cochinchinensis* and *D. oliveri*

since Cambodia imposed its initial ban on exporting logs in 1996 and has subsequently protected *D. cochinchinensis* and *D. oliveri* under the Cambodian Forestry Law No. 35.

Vietnam's imports from Cambodia of high-value sawnwood and railway sleepers have also been expanding. In 2015, 82% by volume and 95% by value, of the lumber and railway sleepers imported by Vietnam from Cambodia were composed of high-value species, including *D. cochinchinensis* and *D. oliveri*. In 2013, high-value species had comprised only 45% of the volume and 86% of the value of its imports. The rosewood and other high value lumber and railway sleeper species that are imported are primarily re-exported to China and India, or processed into semi-finished products for world markets that also include China and India (To *et al.*, 2016).

There are no official statistics, differentiated by species, that are available to determine the extent of the illegal logging and smuggling of *D. cochinchinensis* and *D. oliveri* that occurs in Cambodia. The information that is accessible, moreover, is often fragmented and not well-documented. The evaluation of such occurrences is, therefore, relegated to a review of the reports that are provided in public media outlets and to newspaper articles, in particular, that record instances of government seizures of illegally harvested or transported logs or sawnwood of *D. cochinchinensis* or *D. oliveri*.

There are several representative instances involving *D. cochinchinensis* and/or *D. oliveri* that have been reported during the past several years that reference various illegal activities. Those include:

- The confiscation of more than 1,000 kg of rosewood that was stored at an abandoned house belonging to a district police officer in Takeo province.
- The seizure of 245 logs, weighing 1,317 kg, of contraband rosewood belonging to 28 Cambodian loggers who illegally harvested the timber across the border in Thailand.
- The appropriation of 175 logs, weighing more than 800 kg, of rosewood in Kampong Thom province that were thought to have been transported from another province.
- The confiscation of three military trucks transporting several cubic meters of illegally logged rosewood in Tbong Khmum province prior to selling them in Vietnam.
- The citing of several related cases in Kampong Speu, Kampot and Pursat provinces in which military police were caught accepting bribes to assist illegal loggers to cross the border into Vietnam.
- The burning of 120 pieces of rosewood, weighing 2,000 kg, by soldiers in Pursat province.
- The seizure of 30 m³, involving 13 cases, as well as 7 m³, involving 11 cases, of rosewood in consecutive years in Banteay Meanchey province from illegal loggers who crossed the border to harvest trees in Thailand.

There are several inferences that may be extracted from this overview of illegal logging and smuggling activities. The most prominent of those would include the following:

- The scope of the illegal harvesting and smuggling activities involving *D. cochinchinensis* and *D. oliveri* in Cambodia consists of the small-scale harvesting and transporting of small numbers of trees by small numbers of individuals, as well as the harvesting and transporting of larger numbers of trees by larger, more organized groups. These illegal activities are often aided and abetted through corruption.
- The extent of the illegal harvesting and smuggling activities is under-estimated to a considerable extent by the reported seizures, not only as the result of the incomplete reporting of illegal activities of which officials are unaware, but also in recognition of the significant amounts of reported imports of logs and sawnwood into Vietnam in recent years.

- The illegal international trade in the two species of *Dalbergia* connects activities in several provinces of Cambodia with cross border activities in Thailand and Vietnam. It results in the integration of the harvesting of the species in one of those three countries with its subsequent, movement through Thailand and Vietnam to its ultimate destination in the 'hongmu' market in China. The harvesting appears to conform to a common pattern when once the most high-value and accessible stocks of the *Dalbergia* species in a particular area are depleted, attention is redirected to other areas.

The illegal cutting that has occurred in many areas of the country has resulted in scattered and sparse populations of *D. cochinchinensis* and *D. oliveri*. There is, however, very little quantitative information available on the impact of logging on populations of the *Dalbergia* species. The understanding of the current status of those populations in Cambodia is incomplete and it will be updated under this proposal as part of the process to develop a non-detriment findings (NDF) report in Preah Vihear province.

Location of the project site

The location for the establishment of small-scale private *Dalbergia* forest plantations and the determination of a non-detriment findings report in the Choam Ksant management district in Preah Vihear province is as shown in **Figure 1**.

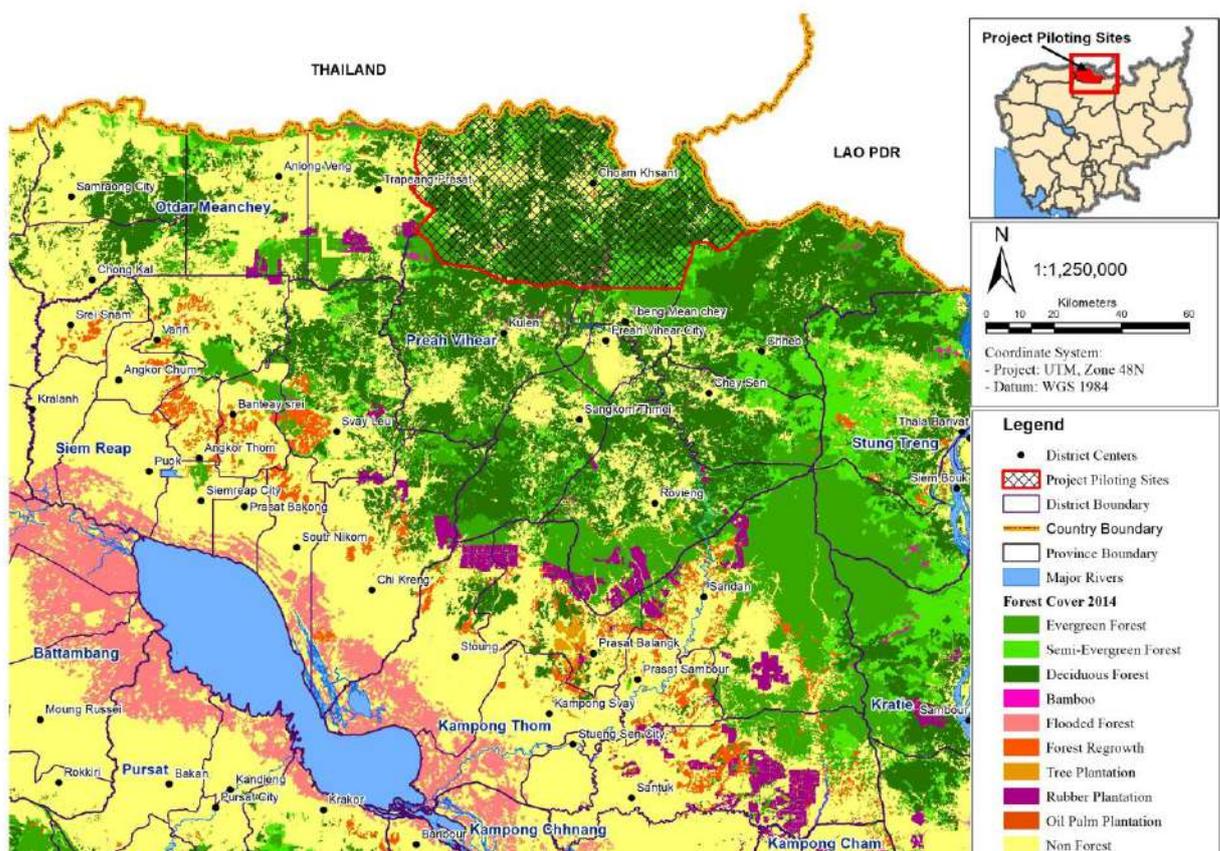


Figure 1. Map of the Project Site

Preah Vihear is one of the main provinces in which *D. cochinchinensis* and *D. oliveri* occur naturally. The soils of the project site in the Choam Ksant management district, which is predominantly a lowland area, are fertile and provide several opportunities for producing high-value crops. The average annual rainfall in the area is 1,594 mm. The project site is located within the Ecological Zone Type A Central Lowlands, which is primarily comprised of dry deciduous forest. It is as the result of several factors that are similar throughout the

region, including its ecology, climate, topography and geology, and soil type, that seeds and/or seedlings may be obtained, which are compatible for planting at the project site. This includes the nearby provinces of Kampong Thom, Siem Reap, Oddar Meanchey, Stung Treng, and Rattanakiri, as well as other areas of the dry forest components of the Indo-Burma eco-region.

The land area and the forest cover of Preah Vihear province and the Choam Ksant management district, which were derived from the most recent land cover assessments that were conducted in 2010 and 2014, are provided in **Table 1**. The forest area to be covered by the NDF report that will be prepared under the project will include evergreen forests, as well as deciduous forests and semi-evergreen forests, to ensure comprehensive coverage of both of the *Dalbergia* species. The extent of the forest area to be covered by the NDF report is estimated to be about 303,333 ha based on the 2014 land cover assessment conducted in the Choam Ksant management district.

Table 1. Forest cover in Preah Vihear province and the Choam Ksant management district

N°	Forest Types	2010 (ha)		2014 (ha)	
		Preah Vihear	Choam Ksant	Preah Vihear	Choam Ksant
1	Evergreen Forest	251,451.93	60,644.08	222,745.78	54,589.41
2	Semi-Evergreen Forest	139,727.70	45,785.19	145,314.69	44,293.91
3	Deciduous Forest	876,010.91	239,787.41	727,117.00	204,449.22
4	Other Forest	14,513.50	5,032.93	28,981.84	5454.56
	Total forest area (Ha)	1,281,704.00	351,249.60	1,124,159.00	308,787.10
5	Non Forest	121,318.95	25,691.65	278,863.66	68,154.16
	Total Land Area (Ha)	1,403,023.00	376,941.3	1,403,023.00	376,941.30

Note: - Other Forest in Preah Vihear province in 2014 includes forest regrowth (2847.57 ha), bamboo (9,865.16 ha), flooded forest (57 ha), and rubber plantations (16,212.11 ha).
 - Other Forest in Preah Vihear province) in 2010 includes bamboo (407.54 ha), wood & shrubland dry (826.67 ha), wood & shrubland evergreen (458.52 ha), and other forest (12,820.77 ha).
 - Other Forest in the Choam Ksant management district in 2014 includes bamboo (4,928.76 ha), forest regrowth (336.94 ha), and rubber plantations (188.86 ha).
 - Other Forest in the Choam Ksant management district in 2010 includes other forest (4,571.13 ha), bamboo (134.06 ha), wood & shrubland dry (257.98 ha), and wood & shrubland evergreen (69.76 ha).

Agriculture is the primary livelihood activity of the population of more than 20,000 individuals in Choam Ksant district according to the update of the last decennial census that was conducted in 2013. Villagers grow rice, as well as subsistence food crops, and plant home gardens to meet daily consumption requirements. Fruit trees are also grown, especially around family homes. Communities established in the area are increasing rapidly as the result of the high birth rates and patterns of migration from surrounding provinces. There is a lack of common understanding on the part of many local people about the importance of conserving forest resources, although the ITTO trans-boundary biodiversity conservation project, which has been implemented by the Cambodia Forestry Administration, has effectively engaged local communities throughout the project area and has enhanced their appreciation of the benefits associated with forest resources conservation.

PART II: THE PROJECT

1. Project Goal and Objectives

The **Goal** of the project is to ensure the survival and sustainable management and expand the area, of *D. cochinchinensis* and *D. oliveri* in Cambodia.

The **Objective** of the project is to 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.

2. Justification

2.1 Problems to be addressed

Rosewood has become the world's most trafficked wild product and CITES has now placed the 300 species of rosewood, including *D. cochinchinensis* and *D. oliveri*, under trade restrictions. In recognition of these developments, an initiative has emerged in Cambodia to support public-private plantations of *D. cochinchinensis*, or of *D. oliveri*, with interest among both the private sector and local farmers.

It has been demonstrated in some of the field trials that have been undertaken in the country that *D. cochinchinensis* and *D. oliveri* regenerate naturally and coppice well. Their growth rates in natural forests has not yet been quantified, although those have been reported to be 'slow.' That is in comparison to the growth rates of faster-growing, yet less high-value, species, however, including *Eucalyptus* and *Acacia* species. The increased interest in planting *D. cochinchinensis* and *D. oliveri* during the past several years has been primarily extended to individual tree planting trials, as well as to applications associated with enrichment planting activities and assisted natural regeneration, rather than to the establishment of plantations. The assessment of the planting trials and the applications is in its initial stages and results remain to a large extent inconclusive. However, the limited evidence available appears to substantiate that plantations consisting of *D. cochinchinensis* or *D. oliveri* are able to be successfully established with the use of appropriate planting stock.

In this regard, the success of plantation establishment is corroborated by the more than 2,000 ha of *Dalbergia* plantations that have been established by the government. Those include 678 ha of plantations that have been established in Siem Reap province, 635 ha of plantations that have been established in Sihanoukville province, 617 ha of plantations that have been established in Kampong Thom province, and 150 ha of plantations that have been established in Svay Rieng province over the past five years. There has, nevertheless, been no systematic monitoring or quantitative measurements of the growth of the trees in the established plantations. The implementation of these measures, which is essential to assess the annual patterns of growth of *D. cochinchinensis* and *D. oliveri* in small-scale plantations, awaits the initiation of the activities that will be undertaken under this project.

There are, indeed, limitations on the current understanding of the patterns of growth, as well as silvicultural characteristics, of *D. cochinchinensis* and *D. oliveri*, although there are some recommendations provided by the Cambodia Tree Seed Project on ways to increase the probability of succeeding in establishing and maintaining plantations of both of these *Dalbergia* species. The most prominent of those recommendations are to plant seedlings that are of at least 60 cm in height, or are of at least 12 months old, using a spacing of 3 x 3 m, which would result in the planting of 1,112 seedlings per ha. The weeding of the planted area should be conducted regularly to promote the growth of the young seedlings and to reduce competition from grass and weeds.

The support for the establishment of *D. cochinchinensis* and *D. oliveri* plantations has also been tempered by the lack of assurances associated with the right to harvest and trade

rosewood. The planting and registering of rosewood plantations through the proposed project is intended to provide that sense of ownership to the private sector and small-scale farmers investing in the plantations of the rights to harvest and trade rosewood. It also provides assurances to financial institutions of available government collateral that will be required to support the establishment of *D. cochinchinensis* and *D. oliveri* plantations in the country. These developments will advance the measures required to ensure the survival and to expand the area of *D. cochinchinensis* and *D. oliveri* in Cambodia. It must be understood, though, that there would be no such comparable assurances that would be forthcoming in the absence of such planned interventions.

2.2 Intended situation after Project completion

The conditions expected to prevail at the end of the project would include the following:

- (i) The information compiled in the surveys on the current distribution, structure, and patterns of growth of *D. cochinchinensis* and *D. oliveri* in open semi-deciduous (semi-evergreen) and dry deciduous forests, as well as in evergreen forests, would become progressively accessible. (The information would be especially useful to forest managers responsible for assessing potential opportunities for the sustainable production of CITES-listed tree products such as those produced from *D. cochinchinensis* and *D. oliveri*. It would also be very advantageous in efforts to increase the public's awareness of CITES).
- (ii) A NDF report on *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province would be prepared. (The preparation of the NDF report would be instrumental in establishing procedures for determining appropriate 'management units' for the *Dalbergia* species from a national perspective and assessing the feasibility of establishing a sustainable and legal international trade in CITES-listed tree species represented by *D. cochinchinensis* and *D. oliveri*, as well as in promoting an increased awareness of CITES).
- (iii) An enabling environment would be developed to support the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri*. (The institutionalization of the enabling environment and the distribution of *D. cochinchinensis* and *D. oliveri* seedlings would be an essential component of efforts to ensure the sustainable and legal domestic trade in *D. cochinchinensis* and *D. oliveri*, which might, with the continued expansion of small-scale plantations, be able to be traded in international markets).

2.3 Target beneficiaries

The National Forestry Program of Cambodia has mandated that forest resources should contribute to equitable macro-economic growth and poverty alleviation, particularly in rural areas through conservation and sustainable forest management with active participation among stakeholders. This approach constitutes a rational and effective means to achieve acceptable balances in disparities between conservation and preservation. It will also ensure the continuance of sustainable economic growth through both forest and forest plantation investment programs and the maintenance of the integrity of natural forest ecosystem landscapes. The principal beneficiaries of the proposed project's activities would include:

- (i) Local communities, small- and medium-scale farmers, landowners, and private sector companies, which would be provided with exceptional opportunities to participate in programs to establish small-scale private plantations that would expand the area of *D. cochinchinensis* and *D. oliveri* while enhancing sustainable livelihoods.
- (ii) Forest resource and land use management practitioners and planners, who would be provided with more extensive decision-making materials, including more accurate

assessments of the distribution, structure, and patterns of growth of *D. cochinchinensis* and *D. oliveri* in semi-deciduous (semi-evergreen) and dry deciduous forests, as well as in evergreen forests. That information would complement the invaluable insights acquired from the preparation of the non-detriment findings report in Choam Ksant district, which is one of the three forest management units that are currently defined and administered under the Preah Vihear Forestry Administration Division. Together with the establishment of an effective enabling environment, there is also important planning information on the current status of *D. cochinchinensis* and *D. oliveri* populations that was previously not available which will be provided to enable the establishment of more appropriate 'management units' for both of the country's *Dalbergia* species. These contributions, in the long run, will serve to strengthen strategies that are developed to limit the extent of illegal logging in those 'management units.'

2.4 Risks

The potential risks and mitigation strategies are presented in **Table 2**.

Table 2: Potential Risks and Mitigation Strategies

Potential risks/assumptions	Mitigation strategy
Difficulties in obtaining government endorsement of the enabling environment to encourage the establishment of small-scale private <i>D. cochinchinensis</i> and <i>D. oliveri</i> plantations.	The risk associated with the difficulties in obtaining government endorsement of the enabling environment developed through the project would be mitigated by securing agreement on the structure and content of the various guidelines and incentives that would be included in the enabling environment. This would be accomplished by means of extended consultations with stakeholders, especially with regard to ensuring sufficient representation of different levels of government in each of the consultations.
There is a lack of interest among private sector and small-scale farmers in registering for the establishment of small-scale private <i>D. cochinchinensis</i> and <i>D. oliveri</i> plantations since, in their assessment, the long-term benefits of establishing and maintaining the plantations would not be considered sufficient compensation, especially in the short term, for the costs and efforts required to establish and maintain the plantations.	The risk associated with the lack of interest among private sector and small-scale farmers in registering for the establishment of small-scale private <i>D. cochinchinensis</i> and <i>D. oliveri</i> plantations would be mitigated by raising awareness among private sector and small-scale farmers of both the short- and long-term benefits of registering for the establishment of the plantations. This would include the mutually beneficial partnerships that would be developed through the project with recognized microfinance organizations in the process of establishing the plantations.
Unanticipated delays experienced in developing practical procedures for registering the establishment of small-scale private <i>D. cochinchinensis</i> and <i>D. oliveri</i> plantations.	The risk associated with unanticipated delays experienced in developing practical procedures for registering the establishment of small-scale private <i>D. cochinchinensis</i> and <i>D. oliveri</i> plantations would be mitigated by organizing a special round of stakeholder consultations. These consultations would include sufficient government representation to achieve consensus on the most effective procedures for registering the establishment of small-scale private <i>D. cochinchinensis</i> and <i>D. oliveri</i> plantations.

3. Outputs

Goal: To ensure the survival and sustainable management and expand the area of *D. cochinchinensis* and *D. oliveri* in Cambodia.

Objective: To 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.

Output 1: Guidelines and incentives to encourage the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri* are developed and endorsed.

Output 2: A non-detriment findings report on *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district of Preah Vihear province is prepared.

4. Activities

Output 1: Guidelines and incentives to encourage the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri* are developed and endorsed.

Activity 1.1: Establish a coordination structure to ensure effective implementation of the project in accordance with project-related requirements and regulations.

Activity 1.2: Select stakeholders and organize consultations to deliberate the guidelines and incentives required to stimulate the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri*.

Activity 1.3: Establish practical procedures for registering the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri*.

Activity 1.4: Conduct business-related training to prepare private sector entities and small-scale farmers to participate in the establishment of small-scale private plantations of *D. cochinchinensis* and *D. oliveri*.

Activity 1.5: Procure and distribute 50,000 seedlings of *D. cochinchinensis* and *D. oliveri* to local communities to support the establishment of small-scale private plantations.

The achievement of **Output 1** will culminate in the procurement and distribution of 50,000 seedlings among local communities in the Choam Ksant management district in Preah Vihear province. The seedlings will be procured from the two nurseries in the province that are administered by the Forestry Administration, as well as, in some instances, from private sector nurseries, that match the provenance of the seedlings with the provenance requirements of the planting sites. It is planned to distribute 50 to 100 seedlings to each of the 500 to 1,500 families that are made up from the more than 20,000 individuals that are currently living in the villages of the district. The selection of the families, as well as the distribution and planting of the seedlings and the monitoring of the planted areas, will be organized through a series of meetings. The purposes of these meetings will be to (i) raise awareness among the private sector and small-scale farmers of both the short- and long-term benefits of registering for the establishment of the plantations and matching villagers' expressed interest with criteria established for the selection; and (ii) discuss the appropriate procedures to use to plant the seedlings in either home gardens or in larger, more expansive areas reserved for multiple family participation, such as in community-established plantation areas that are adjacent to local schools. The seedlings will be distributed free-of-charge in recognition of both the importance that the government has attached to expanding the area of *Dalbergia cochinchinensis* and *D. oliveri* plantations in the country and the sense of ownership that will be instilled in participating families as the result of the securing of tenure and the contributions of the labor expended in establishing the plantations. The Forestry Administration, as a point of reference, was successful in distributing more than 2 million seedlings, 50% of which consisted of seedlings of *D. cochinchinensis*, to local communities, military families, and NGOs country-wide in 2016.

There are elements of socio-economic complexities that may surface during the achievement of **Output 1** as the result of possible interactions between the small-scale farmers that participate in the establishment of *Dalbergia cochinchinensis* and *D. oliveri* plantations and

powerful interest groups, including those that represent illegal loggers. In recognition of the difficulties of resolving those entanglements, the establishment of practical procedures for registering small-scale private plantations of *D. cochinchinensis* and *D. oliveri* will require the intensification of efforts to support the enforcement, although at a much more localized level, of legal and administrative processes that have been initiated country-wide. Those processes involve the registration of tenure, incorporating the resolution of land ownerships disputes involving powerful interest groups, as well as the assurance of the use rights of local communities, the development of which has advanced to a considerable extent over the past 15 to 20 years. These difficulties are not expected to deter the achievement of the project's objective, which is to develop a NDF report on the *Dalbergia* species in Preah Vihear province and institutionalize an enabling environment to support the establishment of small-scale private plantations of the *Dalbergia* species. Indeed, powerful interest groups will be considerably more concerned, at least in the short run, with the harvesting of the high-value *Dalbergia* trees in natural forests than with the establishment of small-scale plantations that have been stocked with immature seedlings. The contemporaneous development of the NDF report, moreover, will contribute to a considerable extent to the development of the enabling environment by providing to decision-makers more reliable information on the distribution, structure, and patterns of growth of each of the *Dalbergia* species. It is in the longer run that these contributions will serve to strengthen strategies that are developed to limit the extent of illegal logging in the project area.

Output 2: A non-detriment findings report on *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district of Preah Vihear province is prepared.

Activity 2.1: Conduct a detailed literature review on the taxonomy, biology, ecology, and the status, trend, and population structure and dynamics of *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province.

Activity 2.2: Assess the extent and effectiveness of current management practices and the current conservation status of *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province.

Activity 2.3: Review the current harvest control and monitoring of *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province.

Activity 2.4: Undertake systematic field surveys to determine the population distribution, stocking levels, and diameter class distributions of *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province.

Activity 2.5: Prepare a non-detriment findings report on *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province.

Activity 2.6: Conduct a workshop to disseminate the NDF of *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province.

The achievement of **Output 2** will incorporate several intermediate steps that will be required to estimate the sustainable harvesting rate of *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province. The principal reasons, other than time and budget constraints, for choosing Choam Ksant district as the appropriate 'management unit' in which to prepare a NDF for the species are twofold. The initial factor is the paucity of information on the distribution, structure, and patterns of growth of populations of *D. cochinchinensis* and *D. oliveri* in natural forests in the country and the resulting lack of proportion in establishing appropriate 'management units' for the two *Dalbergia* species. The second reason is that the open, semi-deciduous (semi-evergreen) and dry deciduous forests, as well as the evergreen forests, in Choam Ksant management district are representative of those forests throughout the principal areas in the country in which the *Dalbergia* species are natural components. The insights acquired in the preparation of the NDF report in Choam

Ksant district is, thus, intended to provide both the NDF, as well as guidance and direction in the preparation of subsequent NDF reports and the ensuing determination of the most appropriate 'management units' for the *Dalbergia* species from a national perspective. The process to estimate the sustainable harvesting rate of *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district will incorporate the following steps:

- (i) The initial review of the literature associated with the distribution, habitat, structure, species adaptability, regeneration capacity, dispersal efficiency, and patterns of growth of populations of *D. cochinchinensis* and *D. oliveri* in natural forests, including those from the other countries in the region.
- (ii) The determination of the most appropriate sampling procedures, including sampling intensity, to be used in view of the sparse distribution of the *Dalbergia* species in the open, semi-deciduous (semi-evergreen) and dry deciduous forests, as well as in the evergreen forests, of the Choam Ksant management district.
- (iii) The assessment of current management, harvest control, and monitoring practices in the Choam Ksant management district.
- (vi) The sampling of the forests in the Choam Ksant management district to compile the required information on:
 - The distribution of populations of *D. cochinchinensis* and *D. oliveri*.
 - The structure of the populations of *D. cochinchinensis* and *D. oliveri*, including:
 - Individual and/or stand stocking levels.
 - Individual and/or stand size and age class and/or diameter class distributions.
 - The growth of diameter increments and the estimated growth rates and yields of *D. cochinchinensis* and *D. oliveri*.

5. Work Plan

The Work Plan for the project is as presented in **Table 3**. It includes the schedule of the activities for accomplishing the two outputs of the project. It also specifies the members of the project team who will be responsible for executing each of the activities of the project. The Project Team Leader will be Mr. Chheang Dany, Deputy Director of the Department of Wildlife and Biodiversity in the Forestry Administration. He will be responsible for the overall execution of the project, as well as for directing the actions of the project team. The technical members of the project team will consist of:

- 1 Private Forest Plantation Specialist, whose technical expertise and experience with tree planting will contribute substantively to the establishment of an effective enabling environment, as well as the survival and sustainable management, of small-scale private plantations of *D. cochinchinensis* and *D. oliveri*.
- 1 Forest Ecology Specialist, whose technical proficiency and associated experience will contribute, especially, to those activities that are directed to increasing the current understanding of the taxonomy, biology, ecology, population distribution, and other related attributes, of *D. cochinchinensis* and *D. oliveri*.
- 1 Forest Management Specialist, whose technical capabilities and practical experience with tropical forest management will ensure the development of a science-based NDF report for *D. cochinchinensis* and *D. oliveri* which is both robust and reliable.

Table 3: Work Plan

OUTPUTS/ACTIVITIES	RESPONSIBLE PARTY	SCHEDULE (18 months)																	
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6
Output 1: Guidelines and incentives to encourage the establishment of small-scale private plantations of <i>D. cochinchinensis</i> and <i>D. oliveri</i> are developed and endorsed.																			
<i>Activity 1.1:</i> Establish a coordination structure to ensure effective implementation of the project in accordance with project-related requirements and regulations.	Project Team Leader																		
<i>Activity 1.2:</i> Select stakeholders and organize consultations to deliberate the guidelines and incentives required to stimulate the establishment of small-scale private plantations of <i>D. cochinchinensis</i> and <i>D. oliveri</i> .	Project Team Leader Private Forest Plantation Specialist Field Assistants																		
<i>Activity 1.3:</i> Establish practical procedures for registering the establishment of small-scale private plantations of <i>D. cochinchinensis</i> and <i>D. oliveri</i> .	Project Team Leader Private Forest Plantation Specialist																		
<i>Activity 1.4:</i> Conduct business-related training to prepare private sector entities and small-scale farmers to participate in the establishment of small-scale private plantations of <i>D. cochinchinensis</i> and <i>D. oliveri</i> .	Project Team Leader Field Assistants Private Forest Plantation Specialist Forest Ecology Specialist Forest Management Specialist																		

7. Sustainability of Outputs after Project Completion

There are several factors that will contribute to the sustainability of project activities and the continued involvement of Forest Administration officials in the completed activities of the project after its closure. Those factors include:

- (i) The recent promulgation of the country's first Declaration on Private Forests with the purpose of promoting public-private-farmer partnerships for establishing small- and medium-scale forest plantations and increasing forest cover. This action, which was executed by the Ministry of Agriculture, Forestry and Fisheries, signals government recognition of deforestation and forest degradation that have occurred in the country. It also underscores recognition of the importance of encouraging public-private-farmer partnerships in promoting the establishment of small-scale private *D. cochinchinensis* and *D. oliveri* plantations.
- (ii) The subsequent development and institutionalization of an effective enabling environment during the project to facilitate the widespread application of the Declaration on Private Forests. This would include the establishment of practical guidelines for the registration of small-scale private *D. cochinchinensis* and *D. oliveri* plantations accompanied by awareness raising campaigns and stakeholder consultations.
- (iii) The preparations completed during this phase of the project, especially with regard to the establishment of practical procedures for registering the piloting of small-scale private plantations and the provision of business-related training. These developments would be required to support the establishment of small-scale private *D. cochinchinensis* and *D. oliveri* in prospective succeeding phase of the project that would be planned to be financed through sources other than those associated with CITES.
- (iv) The socio-economic and ecological impacts of the project including:
 - The socio-economic impacts would be attributable to two improved conditions. The first of these conditions would be the improved livelihoods of local people as the result of increased opportunities for establishing pilot small-scale private *D. cochinchinensis* and *D. oliveri* plantations. The second condition would be associated with the expanded availability and accessibility of the forest resources that would be associated with the establishment of the plantations.

There would also be an important gender-related impact through which women would be particularly encouraged to participate in the piloting of small-scale private forest plantations of *D. cochinchinensis* and *D. oliveri*. That participation would be facilitated by the extended partnerships that would be established through the project with recognized microfinance organizations with considerable experience lending to women in rural areas to enhance family livelihoods.
 - The ecological impacts would be associated with the increase in the area of *D. cochinchinensis* and *D. oliveri* plantations that would be achieved as the result of the institutionalization of an effective enabling environment, including guidelines and incentives. The guidelines would encourage the establishment, as well as practical procedures for registering the piloting of small-scale private forest plantations of *D. cochinchinensis* and *D. oliveri*.
- (v) The inclusion of various policies, strategies and programs to support and complement the implementation of broader development plans in the design of the project that reflect long-term national priorities, including those policies, strategies, and programs that are embedded in the following documents: National Forest Program, 2010-2029; Forestry

Strategic Deployment Plan 2017-2030; Rectangular Strategy Phase III 2013-2018; Cambodia Sustainable Development Goals 2017-2030; and Cambodia’s Initial and Draft Second National Communication under the UNFCCC.

The sustainability of the NDF report that describes the results of the assessment of current harvest control and monitoring practices conducted under Output 2 deserves special attention. Its long-term reliability and use is predicated on a separate study that will be undertaken to ensure the incorporation of comprehensive coverage of the uninterrupted supply chain of *D. cochinchinensis* and *D. oliveri* from harvest to export.

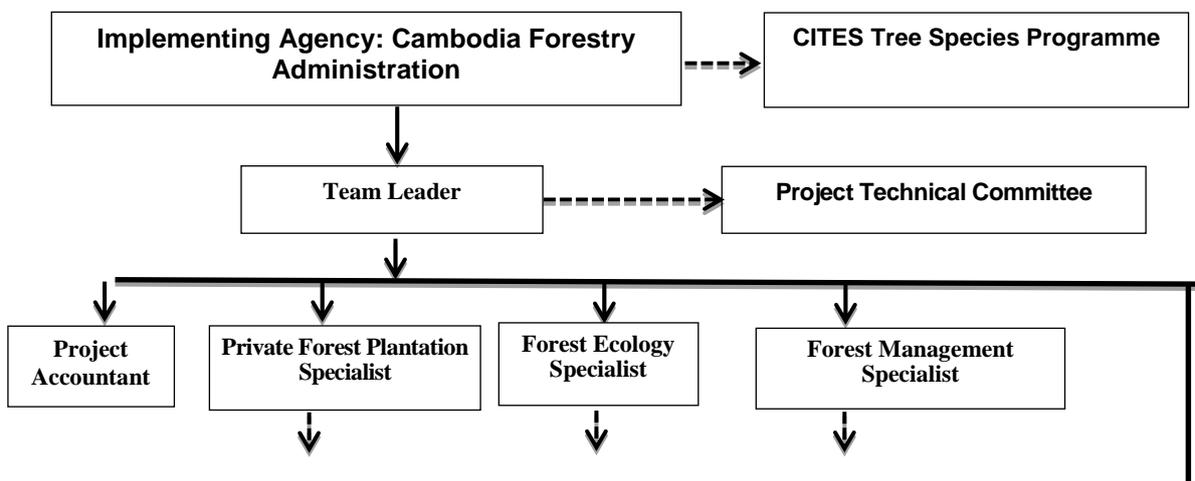
PART III: OPERATIONAL ARRANGEMENTS

1. Management Structure

- (i) The government agency responsible for implementing the project is the Department of Forest Plantations and Private Forest Development in collaboration with the Department of Wildlife and Biodiversity. There will be a Project Technical Committee (PTC), as well, that will be composed of two members each from those two Departments. It will also include one of the Forestry Administration’s Deputy Directors, one of the members of the Cambodia CITES Authority, one representative each from the private sector and the NGO community, and the Technical Advisor to the Forestry Administration. The PTC will meet once every quarter during the duration of the project with the primary purpose of providing technical direction to ensure the effective implementation of the project. Its responsibilities will extend to the review of the technical aspects associated with the project and the preparation of the project’s technical reports and publications.
- (ii) The agencies that would cooperate in the implementation of the project would include the Cambodia CITES Management Authority, of which the Forestry Administration is the Scientific Authority on Terrestrial Fauna and Flora. The contributions of the CITES Management Authority are expected to be particularly useful in the preparation and determination of the NDF for *D. cochinchinensis* and *D. oliveri* in the Choam Ksant management district in Preah Vihear province.
- (iii) The other agencies and/or authorities that would be involved in the project would include local and regional Cambodia Forestry Administration offices, each of which would follow the lead of the central office in actively supporting the project.

The Operational Structure of the project is as in **Figure 2**.

Figure 2. Operational Structure of the Project



Field Assistants



Monitoring, Reporting and Evaluation

Monitoring

The internal monitoring of project activities would conform to the standard procedures used by the Cambodia Forestry Administration in which overall responsibility for project monitoring resides with the Project Team Leader. The Project Team Leader would organize visits to project sites to observe on-going project activities at least once during every three-month period of project implementation. Less formal day-to-day monitoring of field activities would be conducted by the Private Forest Plantation Specialist, the Forest Ecology Specialist and/or the Forest Management Specialist.

The external monitoring of project activities would be accomplished through planned visits to project sites by representatives of CITES where the purpose of the visit would be jointly determined by the project team and the CITES representatives.

Reporting and Evaluation

Project Progress Reports

Monthly progress reports will be prepared based on the achievement of the activities/outputs as described in the Work Plan and will be prepared and submitted to the CITES Secretariat through the Regional Coordinator for Asia.

Biannual progress reports, including both the project's activity and financial situation, will be prepared and submitted 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 and submitted to the CITES Secretariat through the Regional Coordinator for Asia.

List of References

1. To, Xuan Phuc et al., 2016. Vietnam's Imports of Cambodian Logs and Sawnwood from Natural Forests: 2013-2015. Forest Trends.
2. UNEP-WCMC. 2017. Review of selected *Dalbergia* species and *Guibourtia demeusei*. UNEP-WCMC. Cambridge.