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

Sixteenth meeting of the Conference of the Parties
Bangkok (Thailand), 3-14 March 2013

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Dalbergia cochinchinensis is proposed for listing in Appendix II of CITES in accordance with Article II paragraph 2(a) of the Convention and Resolution Conf. 9.24 (Rev. CoP15) Annex 2 (a) Paragraph A.

Annotation: #5 Logs, sawn wood, veneer sheets.

B. Proponent

Thailand and Vietnam [*]

C. Supporting statement

1. Taxonomy

1.1 Class: Magnoliopsida

1.2 Order: Fabales

1.3 Family: Fabaceae (Leguminosae)
Subfamily: Papilionoideae

1.4 Genus, species or subspecies, including author and year: *Dalbergia cochinchinensis* Pierre 1898

1.5 Scientific synonyms: *Dalbergia cambodiana* Pierre

1.6 Common names: English: Rosewood, Siamese Rosewood, Thailand Rosewood, Vietnamese Rosewood or Trắc wood
French: -
Spanish: -
Trade name: “Redwood”, “Hongmu” (in Chinese) or “Cẩm Lai” (in Vietnamese)

1.7 Code numbers: -

2. Overview

Timber trees in the genus *Dalbergia*, commonly known as Rosewood, are leguminous trees which have got a demand in the global market. Currently, there are ten species listed in the CITES appendices due to the effect of international trade on the survival of those species.

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

D. cochinchinensis,a species of Rosewood, widely distributed in Indochina. The species is found in open semi-deciduous forests. Its reddish brown wood is commonly called Siamese Rosewood, Thailand Rosewood or Trắc wood and may also be commercially called Redwood, Hongmu (Chinese) or Cẩm Lai (in Vietnamese).The wood, which is highly desirable for premium wooden furniture, has recently become one of the most expensive kinds of wood in the world.

Due to its vulnerability to extinction from over-exploitation of the natural population, *D. cochinchinensis* has become rare and the species is disappearing from most of its natural habitat. As few efforts have yet been made for commercial plantation, all the trade timbers are from illegal logging of wild populations.

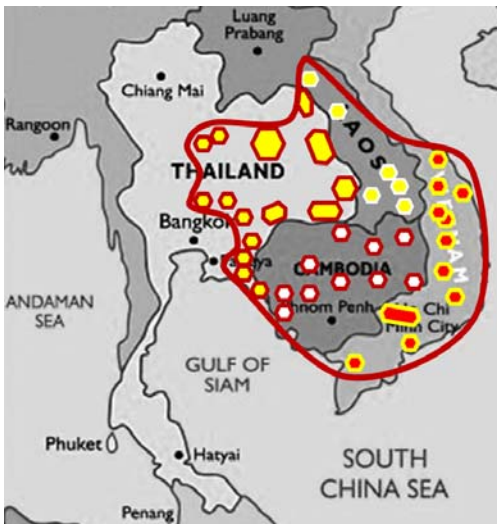
This document suggests that *D. cochinchinensis* meets the criteria for inclusion on Appendix II of CITES in accordance with Article II, paragraph 2(a), of the Convention and Resolution Conf. 9.24 (Rev. CoP15) Annex 2 (a), Paragraph A: *It is known, or can be inferred or projected, that the regulation of trade in the species is necessary to avoid it becoming eligible for inclusion in Appendix I in the near future.*

3. Species characteristics

3.1 Distribution

The species has been found growing sparsely in open semi-deciduous forests in Cambodia (Kampuchea) (in Kampong Thom, Preah Vihear, Ratanakiri, Pursat, Siem Reap, Pang Kratie, Koh Kong, Stung Treng, Udon Meechai and Modulkiri), Lao People's Democratic Republic (in Attapeu, Bolikhamxay, Champasak, Khammouanem, Salavan and Sekong /Xekong), Thailand (scattered in the northeast region at altitude below 800m, the southeast region, Pisanuloke, Petchaboon, Lopburi, Nakorn Nayokand Saraburi), and Southern Vietnam (at altitudes 600-700m with several population up to 1,200m;in Quang Nam - Da Nang southwards, mainly in Gia Lai and Kom Tum; i.e. Dacto, An Khe, Sa Thay, and sparsely distributed in a few localities in other provinces; such as Dak Lak, Lam Dong, Binh Duong, Tay Ninh, Dong Nai, Ba Ria-Vung Tau and Kien Giang).

Currently, the habitat in Thailand is thought to be highly fragmented in 567 square km and concentrated only in a few protected areas (126 square km) of lower North-Eastern provinces. Whilst in Vietnam, a specific survey in 5 protected areas conducted in 2010 showed a low density of 1-10 tree/hectare.



Map 1: Recorded geographic distribution of *Dalbergia cochinchinensis*

Map 2: Current distribution of *Dalbergia cochinchinensis* in Thailand

3.2 Habitat

The species thrives in open mixed semi-deciduous forest (with *Syzygium* spp., *Hopea ferrea* and *Pterocarpus macrocarpus*) and sometime in seasonal evergreen and riparian forests, occasionally in pure stands. It can be found at altitudes of up to 1,200 m.msl (Mean Sea Level)., but is mainly concentrated at 400-500 m.msl. In Thailand, the species had mostly found at 10-700 m.msl.. The species grows well under full-sun condition and prefers fertile and deep sandy clay or calcareous soils along streams. It prefers uniform rainfall from 1200-1650 mm per year; however, it is drought tolerant.

3.3 Biological characteristics

The species is pollinated by insects. It is an often self-pollinated crop, resulting in a limited genetic variation observed within each natural population. However, based on DNA analysis, there is a great deal of genetic variation among populations. White flowers bloom in March to June and the fruits ripe in July to December. The young seedlings have a rather low percentage to reach the maturity stage.

*D. cochinchinensis*is shade-tolerant when young, but this quality is gradually reduced when it gets older. Naturally, the species has a slow growth rate. Natural regeneration is often poor. It regenerates well by coppicing. However, studies in Thailand revealed that PAI of 1 cm in DBH (almost the same growth rate as teak) could be attained in 20-29 year-old plantations. For the heartwood, the growth rate is rather low. It reaches on average 13 cm in diameter for 20 year-old trees.

3.4 Morphological characteristics

The species is a medium-to large-size semi-deciduous (evergreen) tree, of 15 to 30 m in height producing boles to 60 cm in DBH and up to 1.2 m in diameter. Normally, the trees, often with crooked trunk have multiple stems and branches .It sheds its leaves in the dry season. *D. cochinchinensis*is profusely droopy branched with a ramified spherical canopy. Its bark is thin, light brownish-yellow, smooth, and longitudinally fissured, sometimes peeling. Inner color of the bark is yellowish brown.

The sapwood is light brown while the heartwood is reddish brown to purplish red with black streak lines, lustrous when sanded. It is fine in texture, durable (resistant to termites), very hard and heavy.

Leaves are pinnately compound,10-15 cm in length. There are 7-9 leathery dark-green ovate or oblong leaflets with alternate or sub opposite arrangement, obtuse, or shortly acuminate apex, cuneate base, 3.5-10 cm long and 1.8-5 cm wide. Its 7-9 vein pairs are slightly prominent.

The inflorescence, formed near a branch tip, is paniculate, axillary, bracteates and bracteolate. Flowers are white. Sepals are connate, glabrous. Petals have straight claws, standard rectangular. There are 9 stamens. Seed pod is dark brown when mature, smooth, flat and narrow, 5-6 cm by 1cm each with 1-4reddish brown orthodox seeds of 6 x 4mm.There are approximately 30,000-40,000 seeds/kg or weight 18.5 g/100 seeds.

Root system is a rather deep tap root. Lateral roots have leguminous nitrogen-fixing nodules.

Wood has mostly solitary pores, seldom with multiple pores. Pore arrangement has a diffuse porous pattern. Some pores might have deposit. Ray is not well defined. There are aliform and confluent parenchymas with ripple marks. The specific gravity is 0.95 at 9.00% moisture content. At 12.00% moisture content, the strength of dried wood is 171 MPa Modulus of Rupture,16,377 MPa Modulus of Elasticity,117 MPa Compression Stress Parallel to Grain, 26 MPa Shear Force, 4.08 kg-m impact with 11,523 N hardness.

The primary part in an international trade is wood. It is often in the form of logs and sawn woods.

3.5 Role of the species in its ecosystem

No information. However, the species has nitrogen fixation ability, thus can be incorporated in agroforestry systems to enhance soil fertility.

4. Status and trends

4.1 Habitat trends

Deforestation has been commonly observed throughout the habitat range of *D. cochinchinensis*. In Thailand, the habitat area has been continuously reduced due to both deforestation for agriculture and recent illegal logging. Currently, the natural stands of the species are found scattered only in 30 protected areas of 557.76 Sq. km. The habitat is thus fragmented.

4.2 Population size

The population size of *D. cochinchinensis* has never been systemically surveyed. In Thailand, it was estimated that the country had just 80,000-100,000 trees (approximately 63,500 cubic meters) left in the forests in 2011.

No comprehensive survey of rose wood in Vietnam. The population size of rosewood in Vietnam has been declining about 50-60% during the past 5-10 years.

4.3 Population structure

No information is available on the population structure of *D. cochinchinensis.*

Although a significant DNA variation within the species was found through analysis of specimens from Lao P.D.R., Thailand and Vietnam, studies also revealed that samples from the same provincial origins of each country showed high genetic homology. In Thailand, a chloroplast DNA analysis reveal that there were 1-4 haplotypes found in samples from each province. Interestingly, there were only 11 haplotypes in samples from 10 provinces.

4.4 Population trends

No information is available on the population size of *D. cochinchinensis.* However, the wild population of *D. cochinchinensis* is likely to be severely diminished as a result of heavy illegal logging to meet a recent elevated demand for the wood in Asian markets. In Thailand, it was estimated that the country had 300,000 natural stands in 2005, but greatly reduced to just 80,000-100,000 trees (approximately 63,500 cubic meters) in 2011.

Evidence suggests that the species is threatened with extinction as EAI reported that a major Rosewood trader complained in April 2011that "*the species is finished ... there are only about five years left in the trade*."

In Vietnam, the species has been exposed to high rates of exploitation of the prime timber.

4.5 Geographic trends

D. cochinchinensis was mainly concentrated in Indochina. It is now restricted to a few localities in the range state, especially in Thailand where its distribution is diminishing. At the moment, the only remaining rich source of the species is in a protected area near the Thai border with Cambodia (Kampuchea).

No information is available on trends for the species in Cambodia (Kampuchea), Lao P.D.R., and Vietnam.

5. Threats

The habitat loss and recent over-exploitation for the extremely highly-priced timber of *D. cochinchinensis* throughout its range are major threats to the species. In Thailand, the habitat loss has been due to deforestation for economic crop production. Moreover, illegal logging to meet high demand (with the price of USD 1,500 to 2,000/cubic meter) from oversea market posts a major threat to the survival of the species.

6. Utilization and trade

6.1 National utilization

*D. cochinchinensis*is considered a "first class prime timber", due to its coloration, hardness, durability (not splitting when dry), easiness to work and resistance to insects and termites. However, the wood is not as popular as teakwood locally.

The distinctive heartwood makes beautiful patterns after sawing. The wood has recently been used to make furniture, carvings, wood turnery, fine-art articles, musical instruments and sewing machines. The wood from the stumps and roots can also be used for making handicrafts.

Root, bark and sap can be part of traditional medicine.

The fire wood can create 5,112 calories/gram while its charcoal generates 7,352 calories/gram

6.2 Legal trade

The primary part in trade is logs. However, no specific information on local or international trade in this species is available due to prohibition on logging of specimens from forest. In addition, natural stand of the species in private property should not have left.

Commercial plantations of artificially propagated specimens, from seed germination and cuttings, have recently been encouraged by government agencies of the range states. Thus, the inclusion of the species in Appendix II would be of benefit to the growers

6.3 Parts and derivatives in trade

For *Dalbergia* timber species, the heartwood yields quality timber while the sapwood has little value due to their coloration. Thus, the primary part in the international trade, especially in illegal trade, are logs (HS 44.03) and sawn wood (HS 44.06, HS 44.07) while wooden furniture (HS 44.20, HS 9401 and HS 9403)and handy craft made from the wood are also found in the international trade.

6.4 Illegal trade

The wood is not as popular with local people due to a local believe that restricts utilization by ordinary people. In 1987, the domestic demand was only 662 cubic meters for the Siamese Rosewood compared to 37,278 cubic meters for Teakwood. However, a belief in an oversea market that wood furniture made from the Rosewood is good for the health of the owner. The belief has created a great demand for the wood.

Due to a National Logging Ban in Thailand, illegal logging is now practically the only way to obtain the timber of *D. cochinchinensis* in the country, especially since the auction of released exhibits (seized timbers) was stopped in 2007 when the international demand started to surge rapidly. Speculation by overseas traders that the wood will soon be unavailable has led to extremely high price which is a great driving force for illegal trade.

Approximately 178,609 pieces of wood were confiscated in over 3,000 illegal logging cases during the past 6 years in Thailand alone (6,780 logs from 786 cases in the first 9 months of fiscal year 2012). These exhibits had a market price of approximately 3 billion USD. With 0.63 million cubic

meters of seized logs, we can estimate roughly at least 600,000 trees measuring 50 cm. in DBH must have been removed from their habitats. This feature indicates a serious threat to the species.

Table 1 clearly shows that the illegal trade in the past 3 fiscal years doubled each year.

Table 1 Number of cases and exhibit as well as volume of exhibits confiscated between 2009-2011.

Fiscal year	Number of cases	Number of exhibits	Volume of exhibits (Cubic m.)
2009	134	1222	184.17
2010	223	2739	350.74
2011	687	5956	596.86

In Vietnam, there were 74 illegal logging cases of Rosewood on 2010.

6.5 Actual or potential trade impacts

In recent years, high demand for *D. cochinchinensis* timber to make luxurious furniture for the overseas market directly and continuously encouraged illegal logging. There is little domestic demand in Thailand since local people prefer larger wood pieces from *Afzelia xylocarpa* or *Tectona grandis*. International trade is therefore the major element promoting illegal logging.

The survival of the species is now vulnerable in all range countries, even with a tight domestic control. Thus, listing *D. cochinchinensis* in the CITES Appendix II would not only alleviate the pressure on its natural habitats, but also enhance the success of commercial plantation, which is of future economic benefit to rural people.

7. Legal instruments

7.1 National

D. cochinchinensis is listed as Category A (general restrict):restricted timber No. 53 by Thai Forest Act, B.E. 2484.In Thailand, logging of natural forest trees has been prohibited nationwide since 1989. No harvest of the species is legal in Thailand.

Harvesting this species is also banned by Cambodian Forestry Law 2002 No.35.

In Lao P.D.R, the Prime Ministerial Order No-17/PM of 2008 explicitly prohibits harvesting all domestic *Dalbergia* species. In addition, Prime Minister's Order No 010/PM of 2011 bans the exploitation, trading and export of *D. cochinchinensis* wood.

In Vietnam, *D. cochinchinensis* was listed as group IIA protected species under Forest Law in 2006. Later, it has been placed in danger of extinction at level EN A1a, c, d in 2007. As a result, it is prohibited to exploit, dispatch or store the wood, according to Vietnamese government decision 32/2006/ND-CP.

7.2 International

No international instrument has been established and implemented

8. Species management

8.1 Management measures

Many trial plantations of the species have been established in Thailand since 1989.At present, a total of at least 20,000 trees were recorded. It indicates a potential for long-term commercial plantation. However, intercropping is recommended for interim earning.

A number of molecular genetic studies have also been executed to develop a network of *in situ* gene banks as well as sustainable seed gardens for future planting.

All range states started planting programs for the species, some with assistances from international agencies; e.g. APFORGEN, DANIDA and NAFRI.

8.2 Population monitoring

No population monitoring has been performed for the species.

8.3 Control measures

8.3.1 International

There is no current international measure implemented to control movement of timber of the species across international borders.

8.3.2 Domestic

Thai Forest Act, B.E. 2484 listed *D. cochinchinensis* as Category A (general restrict): restricted timber No. 53. As a result, no harvest of the species from forest without permit or concession is legal in Thailand. However, logging from private property can still be performed. In addition, Thailand has prohibited logging of natural forest trees nationwide since 1989. Export permit from the Ministry of Commerce for the logs has also required.

Cambodian Forestry Law 2002 No.35also prohibited harvesting the natural tree of the species.

In Laos P.D.R, the Prime Ministerial Order No17/PM of 2008 explicitly prohibits harvesting all domestic *Dalbergia* species. In addition, Prime Minister's Order No 010/PM of 2011 bans the exploitation, trading and export of *D. cochinchinensis* wood.

The Vietnamese government decision 32/2006/ND-CP banned to utilize, store or dispatch wood from *D. cochinchinensis*.

Collaboration on the control of cross border illegal trading among the range states was recently imposed.

8.4 Captive breeding and artificial propagation

For a long time, it has been known that the natural stands of *D. cochinchinensis* grow slowly. The species has, thus, not been of interest for commercial planting programs (has only trial plantations).

A number of trial plots in Laos and Thailand have shown that it can grow as fast as teak if cultivated under suitable conditions. However, the heartwood yield is rather low for the early period. Growing the tree commercially can both generate high income for rural communities as well as protect the genetic resource of the species for the world.

Efforts have been made to identify good germplasm for seed source establishment in all range states. Fast growing trees with a straight trunk are sought after. When identified and conserved, such specimens can serve as a source of seed for future large-scale propagation. In Thailand, over 570 parental stocks in 18 provinces have been selected and fully recorded since 1987. In 2007, it was reported that Cambodia (Kampuchea) had selected 121 parental stocks in 50 hectares of *in situ* conserved area in Seam Reap since 2002. Lao P.D.R. had 108 hectares in 3 natural forests conserved for the species and Vietnam had established 2 *ex situ* collections of 2,600 trees since 1990.

Due to the available propagation and cultivation technologies as well as the tree's non-specific adaptation to soil types and geographic area, domestication of the species in range states can thus easily be attained.

Propagation technology for large scale plantation has been established. Seeds must be sown immediately after extraction and must be kept ventilated before sowing. Dipping seeds in hot and then coldwater for up to 24 hours accelerates germination. With the mentioned practice, a high seed germination rate can be achieved. Seedlings should be raised in the nursery for at least 6 months until the start of the rainy season.

The species can also be propagated asexually by air layering, cutting, or grafting as well as micro propagation. However, clonal propagation is less desirable for the conservation purpose since it would easily lead to genetic vulnerability. With attention and thinning, valuable timber should be yielded.

No information on the extent of artificial propagation outside the countries of origin.

8.5 Habitat conservation

A number of forest reserves have been established in Thailand for habitat conservation for plants and wildlife. Currently, the natural stands of the species are found scattered only in 30 protected areas. There is no habitat conservation program outside protected areas.

8.6 Safeguards

Not applicable.

9. Information on similar species

The wood of *D. oliveri* (sometime known as *D. bariensis*), has similarity to that of *D. cochinchinensis*. The two closely related species can be differentiated from each other by the following characteristics. At 10.58% moisture content, the former species has a lesser specific gravity of 1.03 and 12,317 N hardness. More importantly, the former has thick, rough gray-to-grayish brown bark with cracks in circular, square and rectangle. It has medium orange to reddish brown medium-fine texture heartwood and yellow sapwood. On the other hand, the latter species has thin, flaky brown-to-dark brown bark with longitudinal and rectangles cracks. It has more magenta or purple hue in the reddish brown to purplish red fine texture heartwood and light brown sapwood. Moreover, *D. cochinchinensis*has mostly solitary pores while *D. oliveri* has both solitary pores and multiple pores with metatrachal parenchyma.

10. Consultations

Thailand is directly sending this draft proposal to authorities of all range States of this species, five international organizations as well as the Netherlands, requesting comments. A comment from Vietnamese CITES Management Authority, which was received by 25 September 2012, is incorporated in this document. Moreover, ITTO and IUFRO expressed their support to this proposal.

11. Additional remarks

Not applicable.

12. References

APFORGEN. n.d. **Dalbergia cochinchinensis Pierre. Ex Laness**. Available at http://www.apforgen.org/pdf_files/InfoSheet_Dalbergis.pdf. Accessed on 5 August 2012.

Cambodia Tree Seed Project, 2001, Some Endangered Species of Cambodia, Unpublished. Cited by: **002b Cambodian Tree Species: Monographs**. CTSP, FA, DANIDA, 2004. Available at http://www.treeseedfa.org/ cambodia_monograph.htm. Accessed 2 August 2012.

Chính, N.N, Chung, C.T., Cân, V.V., Dung, N.X., Dung, N.K., Dào, N.K., Hop, T., Oanh, T.T., Quynh, N.B., Thìn, N.N., 1996. **Viet Nam Forest Trees**. Forest Inventory and Planning Institute. Agricultural Publishing House: Hanoi. pp.788.

Danida Forest Seed Centre. 2000. **Seed Leaflet No.26, *Dalbergia cochinchinensis* Pierre**. Cited by: Cambodian Tree Seed Project, 2004. Cambodian Tree Species: Monographs. CTSP, FA, DANIDA, Phnom Penh. Available at http://www.treeseedfa.org/ doc/monographs/dalbergiacochinchinesis.pdf. Accessed on 12 August 2012.

Dalbergia cochinchinensis. In: IUCN 2012. **IUCN Red List of Threatened Species. Version 2012.1.**Available at http://www.iucnredlist.org/ details/32625/0>. Accessed 9 August 2012.

Departrment of Park, Wildlife and Plant Conservation, Thailand. **Phayong**. Available at http://www.dnp.go.th/ThCitesCop16/Pierre01.pdf. Accessed on 2 August 2012. [In Thai]

Environmental Investigation Agency. 2012. **RoseWood Robbery:** The Case for Thailand to List Rosewood on CITES. Environmental Investigation Agency, London, UK

FAO, 2005. *State of the World's forests*. 6th edition. Food and Agriculture Organisation of the United Nations, Rome. Cited by: **002b Cambodian Tree Species: Monographs**. CTSP, FA, DANIDA, 2004. Available at http://www.treeseedfa.org/ cambodia_monograph.htm. Accessed 2 August 2012.

http://forestinfo.forest.go.th/Content/file/stat2544/TAB1.pdf

http://Kuservice.ku.ac.th/cms_joomla/attachments/article/124/Dr.Jongrak.pdf. [in Thai] Accessed on 1 August 2012.

http://www.dailynews.co.th/politics/135093.[in Thai]Accessed 6 August 2012.

http://www.thaicontractors.com/content/cmenu/5/116/574.html.[in Thai] Accessed 6 August 2012.

http://www.wood-database.com/lumber-identification/hardwoods/burmese-rosewood/. Accessed 5 August 2012.

Khorn, S, 2002, Distribution of Selected Tree Species for Gene conservation in Cambodia. Cited by:Vu Van Dung (Ed.) 1996. **Viet Nam Forest Trees**. Forest Inventory and Planning Institute. Agricultural Publishing House: Hanoi.

Kjaer, E.D., Graudal, L. and Nathan, I.2001**.** *Ex situ* Conservation of Commercial Tropical Trees: strategies, options and constraints. **ITTO International Conference on *Ex Situ* and *In Situ* Conservation of Commercial Tropical Trees.** Yogyakarta, Indonesia.

Ngoc Thanh, D. and Tien Ban, N. 2007. **Vietnam Red List**. Sci. Technol. Pub. Pp.412.

Phongoudome, C. n.d.***Dalbergia cochinchinensis.*** **Siamese Rosewood, Thailand Rosewood (Leguminosea, Papilionoideae, Bean or pea family) Mai Kha Nhoung.**Lao Tree Seed Project. Species Monograph No. 21. NamSouangForest Research Centre, Naxaythong, Vientiane, Lao P.D.R.

Roongruangsree, N. and Tacharoen, T.. 2011. **Genetics of the Thai Rosewood, *Dalbergia cochinchinensis*Pierre.** M.S. Thesis, Maejo University, Thailand [in Thai with English abstract].

So, T., Theilade, I. and Dell, B. 2010. Conservation and utilization of threatened hardwood species through reforestation - An example of Afzelia xylocarpa (Kruz.) Craib and *Dalbergia cochinchinensis* Pierre in Cambodia.**Pacific Conservation Biology** 16 (2): 101-116.

Soonhuae, P. 1994. **Estimation of genetic variation in Thailand rosewood (*Dalbergia cochinchinensis* Pierre).** Ph.D. Thesis. Kasetsart University, Thailand. [In Thai with English abstract]. Available at https://circle.ubc.ca/handle/2429/6935.Accessed on 6 August 2012.

STRAP, 1995. **National workshop on strengthening re-afforestation programmes in Lao P.D.R.** F.A.O. Regional Project STAP Field Document No. 4. GCP/RAS/142/JPN.

Thu Hien, V.T. and Thi Phong, D. 2012. Genetic diversity among endangered rare *Dalbergia cochinchinensis* (Fabaceae) genotypes in Vietnam revealed by random amplified polymorphic DNA (RAPD) and inter simple sequence repeats (ISSR) markers. **African Journal of Biotechnology** 11: 8632-8644.

UNEP-WCMC. 2008. **Strategies for the Sustainable Use and Management of Timber Tree Species Subject to international Trade: South East Asia**. Available at http://www.cites.org/common/com/PC/17/X-PC17-Inf-07.pdf. Accessed on 8 August 2012.

Van Dung, V. (Ed.) 1996. **Viet Nam Forest Trees**. Forest Inventory and Planning Institute. Agricultural Publishing House: Hanoi.

Van So, N. 2000. The potential of local tree species to accelerate natural forest succession on marginal grasslands in Southern Vietnam, p. 135-148. In: Elliott, S., Kerby, J., Blackesley, D., Hardwick, K., Woods, K. and Anusornsunthorn, V. (eds.) **Forest Restoration for Wildlife Conservation**. Chiang Mai University, Thailand.

Vu Van Dung (Ed.) 1996. **Viet Nam Forest Trees**. Forest Inventory and Planning Institute. Agricultural Publishing House: Hanoi.

Yooyuen, R., Duangjai, S. and Changtragoon, S. 2008. Chloroplast DNA phylogeography of *Dalbergia cochinchinensis* Pierre in Thailand and Laos, p. 84-90. Heok-Choh, S., Hamid, S.A. and Mei, L. (eds.) IUFRO World Series. Vol. 30. **Asia and the Pacific Workshop: Multinational and Transboundary Conservation of Valuable and Endangered Forest Tree Species**. Available at http://www.iufro.org/download/ file/8735/153/ ws30_pdf. Accessed on 31 July 2012.

Zadro, M.G. 1975. Woods used for woodwind since the 16th Century 2: a descriptive dictionary of the principal woods mentioned. **Early Music** 3(3): 249-251.