

## 5. *Afzelia xylocarpa* (Kruz.) Craib

### Taxonomy and Commercial Grade

Cambodian name	: Beng
Scientific name	: <i>Afzelia xylocarpa</i> (Kruz.) Craib.
Synonym	: <i>Pahudia cochinchinensis</i> Pierre
Family	: <i>Fabaceae</i>
Sub-family	: <i>Caesalpinioideae</i>
Commercial Grade-Cambodia	: Luxury

**Distribution and Habitat:** This species is found in Laos, Thailand, Cambodia and Vietnam. It is a light demanding species, occurring on well-drained flatlands or transitional zones between evergreen and dry open dipterocarp forest, usually from 500 – 700 m a.s.l. The species also occurs above 900 m (Dy Phon, 2000) in mixed forest. The tree is often associated with *Dalbergia oliveri*, *Pterocarpus macrocarpus*, *Lagerstroemia calyculata*, *Dipterocarpus tubinatus* and *Tetrameles nudilora*. Trees occur in a scattered manner in mixed forests, and do not usually form pure stands. Within Cambodia, this species is found in Kampong Thom, Kratie, Stung Treng, Preah Vihear, Siem Reap, Battambang, Ratanakiri, Mondulakiri, Kampot and Pursat (Khorn, 2002; see map).

**Gene-Ecological Zones:** Coastal Cardamoms (A), Northern Cardamoms (B), Tonle Sap Floodplain (C), Redlands (c), Northwestern Lowlands (D), Central Lowlands (d), Central Annamites (G).



**Botanical Description:** This is a large deciduous, broad-leaved tree species that reaches from 15–20 (-30) m tall, and produces a bole from 0.8 – 1.5 m in dbh. The leaves are pinnate, with 3 – 5 oval leaflets from 5– 6 cm long and 4–5 cm wide. The species regenerates naturally and coppices well (CTSP, 2001).

**Flowering and Fruiting Habit:** Fruits ripen in March, April and May, and can be collected from the ground. It can remain on the ground for several months without any damage, and its germination ability lasts longer (1–2 years) when seeds are stored in low temperatures (DFSC, 2000).

**Fruit and Seed Description:** The fruit is big, thick, dark-brown or black, and ligneous when mature. Seeds are oval, hard, dark-brown or black, and 1.5-1.8 cm in diameter. Each kg of seed contains about 110-160 seeds (DFSC, 2000).

**Seed Collection:** The seeds are mature when the pods turn brown and the seeds are hard and dark. The pods can be collected by climbing the tree, or by spreading a cover on the ground and shaking the branches. Maturity can be confirmed by a cutting test (DFSC, 2000).

**Seed Handling:** After collection, the pods are dried in the sun on a tarpaulin until they have opened. Shaking or beating the fruit in a bag can extract the seed. It is not certain whether it is necessary to remove the aril before storage to avoid fungal attacks. If the seed is stored with the aril, it is especially important to make sure the seeds are well dried. Removal of the aril will reduce the bulk by about 25% (DFSC000).



**Sowing and Germination:** Planting stocks or stumps are normally used for stand establishment. Plants can also be propagated by air layering, cuttings, or grafting (DFSC, 2000).

**Uses:** The wood beng is valuable on account of its rich dark or light-red colours, prominent veins, hardness and durability. The wood is used in various ways, including house construction, cabinet and furniture-making, and high quality handicrafts (CTSP, 2001). The bark is used for tanning animal skins, and also in local medicine and also in veterinary medicine (Dy Phon, 2000). The fatty cotyledons of young seeds are edible (DFSC, 2000).

**Current Status:** Because the wood of *beng* is very valuable, this species is over-exploited and in danger of extinction if adequate protection measures are not implemented. Within most of its area of distribution, mature trees have been reduced dramatically, and sometimes it is very difficult to find them for seed collection. The number of mature trees has been reduced significantly and it is now difficult to find significant sources of germplasm.

In 2002, the second meeting on the Forest Gene Conservation Strategy defined *Afzelia xylocarpa* (Kruz.) Craib. Pierre as a priority species in need of immediate protection and conservation. This species is protected by Cambodian Forestry Law No.35.

**IUCN Classification:** EN A1cd

**References:**

- Cambodia Forestry Law No. 35, 25<sup>th</sup> June 1988
- Cambodia Tree Seed Project (CTSP), 2001, Some Endangered Species of Cambodia, Unpublished
- FA, 2002 (draft), List of Trade Names of Commercial Wood in Cambodia, Trade Names of Commercial Wood, unpublished
- DFSC 2000, Seed Leaflet No.6. *Afzelia xylocarpa* (Kruz.) Craib. Danida Forest Seed Centre (DFSC), September
- Dy Phon, 2000, Dictionary of Plants used in Cambodia
- Khorn, S, 2002, Distribution of Selected Tree Species for Gene Conservation in Cambodia
- Ministry of Agriculture, Forestry and Fisheries, 1986, Decision No. 050 SSR.KSK: Wood Classification and Minimum Diameter for Allowable Cutting, 12<sup>th</sup> September
- UNEP World Conservation Monitoring Centre, 2002, Red List for Cambodia, Second
- CTSP Seminar, 29 Jan. 2002 on Forest Gene Conservation Strategy.

