

**Advisory Council on the Environment  
Nature Conservation Subcommittee**

**Status of *Aquilaria sinensis* (Incense Tree) in Hong Kong**

**Purpose**

This paper updates Members on the current status of *Aquilaria sinensis* (Incense Tree) (土沉香/白木香/牙香樹) in Hong Kong, and the measures taken to conserve this species in the face of illegal exploitation.

**Background**

2. *A. sinensis* is a native tree species of the plant family Thymelaeaceae. It is an evergreen tree of 6 to 20 m tall with smooth bark in light grey or dark grey. Leaves are alternately arranged and obovate. Lateral veins of leaves are slender and dense, nearly parallel to each other. Flowers are small, fragrant and yellowish green (Fig. 1a). Fruits are woody capsule, hanging down like green pendants (Fig. 1b).



Fig. 1a



Fig. 1b

3. *A. sinensis* is a common lowland species which is particularly abundant in fung shui woods behind rural villages. The Agriculture, Fisheries and Conservation Department (AFCD) has been keeping records of *A. sinensis* encountered in our routine vegetation surveys, and found the species to be widely distributed in lowland areas including many country parks. Despite the illegal exploitation of this species in the past decade, smaller trees and seedlings are still commonly found in the wild.

4. It is known that this species was once widely planted in Hong Kong for producing raw materials of incense, which were exported to the Mainland, Southeast

Asia and places as far away as Arabia (Iu, 1983). Hong Kong was thus given its Chinese name - “Fragrant Harbour”, i.e. harbour exporting incense.

5. *Aquilaria* produces a dark aromatic resin at wounds as a reaction against fungal infection. Sections of trees trunks or branches that contain patches of fragrant, resinous wood enter into the trade under the name “agarwood”(沉香木). Also, the resin accumulated from the wood is used as a valuable Chinese medicine called “Chen Xiang” (沉香). Good quality Chen Xiang, derived mostly from a related species *Aquilaria malaccensis*, was formerly imported from the Asian tropics into the Mainland. Owing to depletion of supply of such quality products, resin from the local species *A. sinensis* has been used as a substitute.

6. According to Chinese medicinal literature, the resin can be extracted in large quantities by natural fungal infection or by external wounding (up to 5 cm into the bark). Sustainable harvesting of the resin of one tree can be induced by opening a wound 3 to 4 cm into the bark, and with the resin collected a few years later after accumulation. Or a small quantity of resin can be extracted from wood blocks by heating or burning, so that the resin liquefies and seeps from the wood blocks.

### **Conservation status**

7. Agarwood contains resin which is a valuable traditional Chinese medicine. Because of its high commercial value, *A. sinensis* trees were cut down and their habitats in South China were damaged for harvesting agarwood. Fragrant wood with resin impregnated is usually found in trees older than 20 years but not all of the trees would be naturally infected by fungi. Some illegal harvesters may indiscriminately fell trees in order to search for infected wood. This has led to a sharp decline in the number of large *A. sinensis* trees in Guangdong, where wild populations have become rare and large trees become uncommon. The local populations of *A. sinensis* in Hong Kong may represent some of the remaining healthy populations in China, and are of conservation value.

8. *A. sinensis* was listed as “Vulnerable” in the IUCN Red List of Threatened Species published by The World Conservation Union, as well as the China Red List (2004). Currently, all species of *Aquilaria* are listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and their import and export require relevant licenses. In Mainland China, *A. sinensis* is in the “List of Wild Plant Under State Protection” (Category II). The species has been

included in the book “Rare and Precious Plants of Hong Kong”, due to its conservation status in Mainland China.

### **Illegal felling of *Aquilaria sinensis* in Hong Kong**

9. The illegal harvesting of *A. sinensis* has extended to Hong Kong in the past decade owing to soaring demand for valuable agarwood. Illegal felling and pruning of *A. sinensis* was reported in different regions of Hong Kong, including Sai Kung, Sha Tin, Sha Tau Kok, Tai Po, Lantau, Lamma and even Hong Kong Island.

10. Given the widespread occurrence of tree-felling incidents, enforcement actions against illegal felling of *A. sinensis* have been undertaken by the Police, with the assistance of AFCD. Patrols were conducted by the Police in areas with reports of illegal logging.

11. According to the information provided by the Police, the enforcement cases involved mostly Two-way Permit holders, as well as some illegal immigrants and a few Hong Kong residents. Information on recent cases and prosecution actions is summarized in the following table.

<b>Year</b>	<b>No. of cases</b>	<b>No. of prosecutions</b>	<b>Weight of Wood Recovered and Estimate No. of Trees Affected</b>
2010	19	9	14.3 kg (7 trees)
2011	72	28	91.2 kg (210 trees)
2012	67	29	70.5 kg (99 trees)
2013 (up to Sept)	67	13	108.2 kg (108 trees)

12. Under the Forests and Countryside Ordinance (Cap. 96), any person who unlawfully fells or destroys any trees or growing plants on Government land is liable on conviction to a fine of \$25,000 and imprisonment for one year. Depending on the circumstances of individual cases, the Police may initiate prosecutions under the Theft Ordinance (Cap. 210), which imposes a heavier penalty, in a bid to achieve a stronger deterrent effect. Any person arrested and charged with theft is liable to a maximum penalty of a fine of \$100,000 and imprisonment for ten years.

13. Currently, offenders involved in illegal felling of *A. sinensis* were mainly

prosecuted under the Theft Ordinance (Cap. 210) and, when appropriate, the Organized and Serious Crimes Ordinance (Cap. 455). Along with the sentences aggravated and other possible offences (e.g. violation of the Immigration Ordinance), the maximum penalty convicted involving *A. sinensis* is four year and three months imprisonment.

### **Conservation Measures**

14. Illegal exploitation in recent years has caused adverse impacts to the local populations of *A. sinensis*. Many of the locations with significant number of mature trees had been affected by illegal exploitation, although smaller trees and seedlings are still commonly found in rural areas. The local population of *A. sinensis* is undeniably under threat and its conservation calls for attention.

15. Enforcement actions against illegal logging, which are essential to the protection of the existing populations, will be continued. AFCD will closely liaise and cooperate with the Police in combating against illegal felling or pruning of *A. sinensis*. Patrols will be stepped up at hotspots of illegal tree felling to deter unauthorized activities. AFCD has recently started to treat the wounds of affected trees with anti-fungal paint. This may suppress the formation of valuable resinous wood by the living wood tissue, and discourage the harvesters from causing further damage to the trees.

16. In addition to protecting the existing populations, efforts are also made to enhance local propagation of *A. sinensis*. AFCD has increased the production of seedlings of *A. sinensis* in the past few years, and planted the seedlings extensively in country parks, as shown in the following table. These measures will be continued to assist in the re-stocking of *A. sinensis* in the countryside of Hong Kong.

<b>Year</b>	<b>Number of seedlings planted</b>
2009	9,000
2010	8,710
2011	9,800
2012	11,000
2013 (up to October)	10,600

**Advice sought**

17. Members are invited to note the current situation of *A. sinensis* in Hong Kong and comment on the conservation measures.

**Agriculture, Fisheries and Conservation Department  
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## References

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