

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

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

Purpose

This paper updates Members on the measures to enhance protection of Incense Tree (*Aquilaria sinensis*) (土沉香) in Hong Kong.

Background

2. The status of Incense Tree and measures taken to conserve this species was reported to the Nature Conservation Subcommittee (NCSC) of the Advisory Council on the Environment (ACE) on 17 December 2013. While Members noted AFCD's efforts on conserving Incense Tree, they suggested the Government to step up measures to tackle illegal exploitation of the species through different means.

Status and Distribution of Incense Trees in Hong Kong

3. Incense Tree is a native tree species widely distributed in lowland areas and is particularly abundant in mature woodlands behind rural villages in Hong Kong. All species of *Aquilaria* produce a dark aromatic resin at wounds as a reaction against fungal infection. Sections of tree 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) which used to be derived mostly from the species *Aquilaria malaccensis* and imported from the Asian tropics. Owing to the depletion of supply of such products, the resin from Incense Tree has been used as a substitute.

4. Due to the high commercial value of agarwood, many of the Incense Trees in southern China were cut down and their habitats were damaged during the harvesting of agarwood. This has led to a sharp decline in the wild population of Incense Tree in Guangdong.

5. Incense Tree is listed as "Vulnerable" under the "Red List of Threatened Species" of the International Union for Conservation of Nature. It is also

listed in Appendix II to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). In Mainland China, Incense Tree is on the “China Species Red List” and the “List of Wild Plants under State Protection (Category II)”.

6. The illegal felling of Incense Tree has extended to Hong Kong owing to the depletion of wild specimens in southern China and the increasing demand for agarwood in the Mainland. Illegal felling of Incense Trees was reported in different regions of Hong Kong including Sai Kung, Sha Tin, Sha Tau Kok, Tai Po, Lantau Island, Lamma Island and Hong Kong Island, etc. from time to time. The numbers of Incense Trees illegally felled in the past five years are at the **Annex**.

Enhanced Protection Measures

7. In view of the threats to the conservation of Incense Tree, a series of measures have been introduced or are being worked out to strengthen enforcement against illegal harvesting of Incense Tree and to ensure its survival in the territory. These measures are described below:

Stepping Up Patrol

8. The Agriculture, Fisheries and Conservation Department (AFCD) conducts regular patrol in country parks and special areas to deter irregularities. In view of the increased occurrence of illegal felling of Incense Tree in country parks and special areas, AFCD has stepped up patrol at black spots of illegal tree felling. Joint operations with the Police are also conducted from time to time at black spots to deter illegal felling of Incense Tree. In the past two years, AFCD and the Police conducted a total of 35 joint operations at black spots in Sai Kung, Lantau Island and North District. Suspected cases of illegal felling and theft of Incense Tree have been followed up by the Police for further investigation.

9. To further prevent illegal felling of Incense Tree, AFCD has recently set up a special task force to conduct targeted patrol of sites at which important populations of Incense Tree are present. When signs of irregularities are found, the task force will report the case to the Police promptly for further investigation or surveillance. The risk-based targeted patrol programme will be reviewed from time to time, taking into consideration of the latest intelligence gathered.

Strengthening Enforcement

10. To combat illegal felling of Incense Tree, enforcement actions are being undertaken by the Police and AFCD. The Police will conduct criminal investigation into all suspected cases while AFCD renders assistance in inspecting the exhibits, providing expert advice and serving as expert witness on identification of the trees concerned in the court proceedings. Recognising the seriousness of the offence committed and acting as a deterrent, offenders involved in illegal felling of Incense Trees are mainly prosecuted under the Theft Ordinance (Cap. 210) which carries a maximum penalty of imprisonment for 10 years. The prosecution figures in the past five years are at **Annex**.

11. In Hong Kong, the import, export and re-export of agarwood specimens are regulated under the Protection of Endangered Species of Animals and Plants Ordinance (Cap. 586) which is the local legislation that gives effect to CITES. Under the Ordinance, all shipments of agarwood specimens must be accompanied with a valid CITES permit and be inspected by an authorised officer upon landing in or before exported/re-exported from Hong Kong. The maximum penalty of violating the above licensing requirements is a fine of \$500,000 and imprisonment for one year. AFCD enforces the import and export/re-export control of the Ordinance in collaboration with the Customs and Excise Department (C&ED). The two enforcement agencies conduct joint operations at export control points from time to time to combat smuggling of endangered species including agarwood. Some concern groups have proposed to prohibit the sale of wild agarwood obtained from Hong Kong. It should however be pointed out that since agarwood obtained from stolen trees were mainly sold outside Hong Kong, banning the sale of wild agarwood locally would not serve to protect the Incense Tree population in Hong Kong.

Enhancing Monitoring and Protection

12. AFCD has also conducted surveys and studies over the years on the distribution of Incense Trees. AFCD's information shows that Incense Tree is widely distributed in lowland broad-leaved evergreen forests of countryside areas, and in mature woodlands behind rural villages. In order to gather updated information on the existing population of Incense Tree for enhanced protection, a systematic territory-wide survey on the distribution of existing population of Incense Tree will be conducted. In view of the widespread distribution of Incense Trees in

the territory, AFCD is considering using aerial drones to survey and monitor Incense Trees. As Incense Tree does not have any distinctive tree crown and its canopy is often interlaced with other trees, trials will be conducted to see whether images taken by drones would be accurate enough for identifying Incense Trees.

13. To help monitor and protect individual large and mature Incense Trees, AFCD is conducting a trial on the effectiveness of using remote electronic device for monitoring the trees. A trial is being conducted by using closed-circuit television (CCTV) camera with night vision and recording function at a strategic location within the Tai Po Kau Nature Reserve to strengthen monitoring of the field situation. In the event irregularities are detected in the area, the recorded video footage may be of use to the follow-up investigation. Besides, a trial on the use of a novel surveillance device (which would be triggered by human movement to take pictures) for monitoring the illegal harvesting of Incense Trees is being conducted. Upon detection of human movement within the operational range, the device would send pictures instantly to a designated mobile device or an e-mail account for arranging timely operations or follow-up actions as necessary. Considering that Incense Trees are widely distributed in the countryside areas throughout the territory and there are various constraints in the field, the trial will first be conducted in a controlled outdoor environment to test its applicability in the local environment.

14. To offer further protection to large and mature specimens of Incense Tree, AFCD is also working with relevant concern groups on the trial use of metallic tree guards which are installed to provide a secured barrier against felling/vandalism of the trees in certain Fung Shui Woods. Subject to the results of the trial, more tree guards would be installed to protect large and mature specimens at other appropriate locations.

15. When trees are found cut or pruned during patrols, AFCD will treat the wounds of the affected trees with anti-fungal paint. The paint suppresses the formation of agarwood and removes the incentive for harvesting so as to discourage the harvesters from causing further damage to the trees. AFCD also distributes the anti-fungal paint to the Police and volunteers of the relevant concern groups to help treat the wounds of damaged trees.

Mobilising Community Involvement

16. To combat illegal tree felling activities more efficiently, support from the

general public including residents living in the vicinity of particular Incense Trees and hikers is also important. In this regard, the Police and AFCD have stepped up liaison with residents living in the vicinity and have strengthened communication with them for collecting intelligence on illegal tree felling and associated suspects. The residents are requested to inform the Police, AFCD and relevant Government departments as soon as possible when they find illegal tree felling activities, so that timely enforcement actions can be taken. Besides, to enhance communication and information exchange, meetings involving the concern groups, Police, AFCD and Lands Department were held, and AFCD has provided technical support and advice to relevant parties for the effective wound dressing of damaged trees.

17. AFCD is now discussing with the concern groups with a view to enhancing the latter's involvement by mobilising their members, hikers and villagers to conduct more systematic and strategic monitoring/ patrols in black spots and woodlands behind rural villages, and reporting of suspected irregularities to the authorities. With a more established collaboration network, it is hoped that enforcement actions and investigations would be conducted promptly, and that other remedial actions, including application of anti-fungal paint and more frequent patrols, in the concerned areas could also be undertaken in time.

18. AFCD has included tree protection in its regular education and publicity programmes targeting students and the public. A poster titled "No Unauthorised Tree Felling" has been published and displayed at various Visitor Centres and information boards of country parks. Copies of the poster were also distributed to various District Offices for displaying on notice boards. To raise the awareness of the public about the offences of illegal felling of Incense Tree, and to encourage timely reporting of suspected cases, an episode of Police Magazine had been produced and broadcasted in March 2015. The Police engaged the concern groups in gathering intelligence during an operation against illegal felling of Incense Tree conducted in 2015. The Police has been conducting joint activities with the concern groups, which include patrols and wound dressing for damaged trees with anti-fungal paint by hikers and volunteers.

Promoting and Strengthening Cross-boundary Cooperation

19. AFCD and C&ED have been working closely to combat smuggling of endangered species (including Incense Tree) under the Ordinance. To help frontline staff of C&ED identify agarwood and detect illegal activities, AFCD

has conducted training sessions for them and more such sessions are being arranged. In view of the increased incidents of smuggling through air-mail parcels, C&ED and AFCD have jointly arranged training sessions for the frontline staff of the five major local express cargo operators on the identification of CITES items and the latest smuggling trend.

20. Relevant Government departments including AFCD, C&ED and the Police have also stepped up joint efforts to strengthen export control of Incense Tree and intelligence exchange between the enforcement agencies of Hong Kong and the Mainland to combat smuggling of Incense Tree. Adopting the risk-based and intelligence-led approach, C&ED detected eight cases of smuggling of agarwood from Hong Kong to the Mainland between 2011 and 2015. A total of 800 kg of agarwood was seized. AFCD has contacted its CITES counterpart in the Mainland, drawing their attention to the matter and requesting them to liaise with their relevant agencies to step up enforcement actions. C&ED will continue to closely coordinate with their overseas and Mainland counterparts in the context of intelligence exchange and monitoring the smuggling trend of CITES items. The Police will also continue to maintain close liaison and strengthen intelligence exchange with the relevant Government departments and the Mainland authorities.

Stepping up Efforts on Artificial Propagation and Replanting

21. Illegal exploitation in recent years has caused adverse impacts on the local populations of Incense Tree. In addition to protecting the existing populations, efforts have been made to enhance the local propagation of Incense Tree. AFCD has increased the production of seedlings of Incense Tree in the past few years to 11,000 seedlings per year and planted the seedlings extensively in country parks. In the coming years, AFCD will make extra efforts to increase the production of Incense Tree seedlings and make them more widely available for suitable tree planting programmes, including in country parks under AFCD and in various locations managed by other departments. We have also identified some secure locations for planting the seedlings with a view to establishing protected populations of Incense Tree in the long run. The above measures will be continued to assist in the re-stocking of the species in the countryside of Hong Kong.

Advice Sought

22. Members are invited to note the current situation of Incense Tree in Hong

Kong and comment on the measures being undertaken to conserve the species.

Agriculture, Fisheries and Conservation Department
Environmental Protection Department
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Annex

Numbers of Incense Trees Illegally Felled in 2011 - 2015

Based on 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 summarised in the following table.

Year	Number of Cases	Number Arrested (Person)	Number of Prosecutions (Case)	Number of Convictions (Case)	Penalties (Imprisonment)	Weight of Wood / Number of Trees (Felled)
2011	72	65	28	28	3 - 35 months	91 kg / 210
2012	67	64	29	27	9 - 45 months	70 kg / 99
2013	96	41	21	18	24 - 45 months	133 kg / 168
2014	134	65	26*	26	3 - 55 months	283 kg / 240
2015	120	16	5*	3	30 - 35 months	106 kg / 249

*Deducted cases where the arrested person(s) was/were placed on holding charge and subsequently released unconditionally.