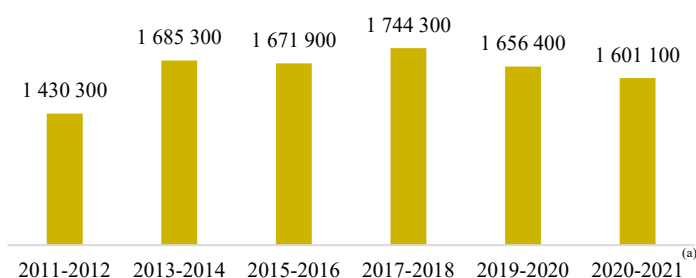


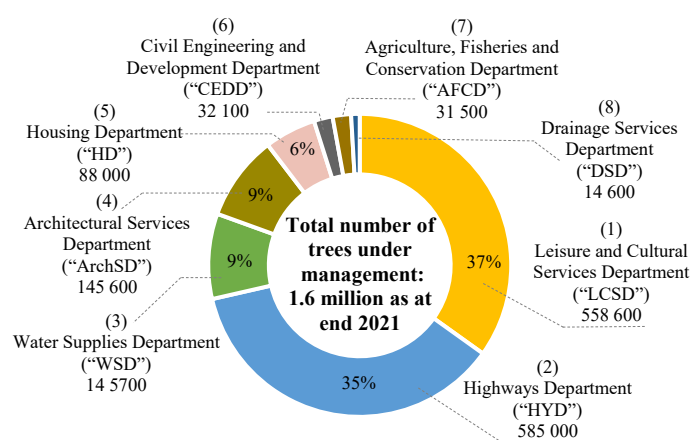
Tree management by government departments in Hong Kong

Figure 1 – Number of trees managed by eight core departments



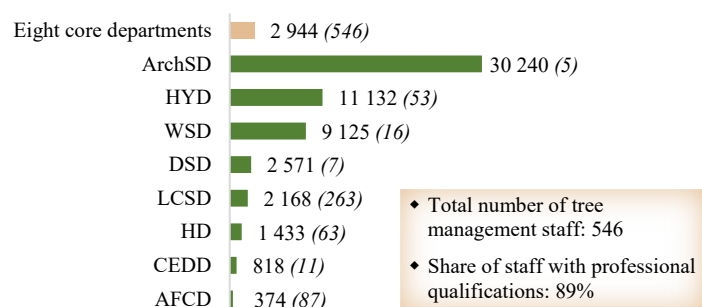
Note: (a) Figure for 2020-2021 is as at end-2021. There are no data on trees managed by non-core government departments and private landowners.

Figure 2 – Distribution of trees managed by each of the eight core departments at end 2021^(a)



Note: (a) LandsD is also considered as a core department for tree management but it could not provide data on the number of trees on unallocated unleased government land due to their large numbers.

Figure 3 – Average number of trees managed by relevant staff members in each of the eight core departments, 2020^(a)



Note: (a) LandsD, with 41 staff members taking care of trees, is not included in the chart due to unknown number of trees it manages. The figure in bracket refers to the number of staff members taking care of trees.

Highlights

- Hong Kong's favourable climate and the Government's persistent greening efforts have engendered vibrant tree growth in the city. Managing these trees is the responsibility of either the Government or private property landowners, who may be subject to the land lease's tree preservation clause requirements. While it is neither practical nor feasible to take care of all the trees on a regular basis, eight government departments ("eight core departments") have the responsibility for proactively managing some 1.4 million to 1.7 million trees under their purview in the past decade (Figure 1). Of these, an estimated one million have been found in areas with high pedestrian or traffic flow, according to the Government. The Lands Department ("LandsD") also manages an unknown number of trees on unleased sites on ad-hoc basis or upon complaint referrals.
- Of all trees managed by the eight core departments, about 37% (585 000 trees) are located in facilities managed by LCSD, while 35% (558 600 trees) are found along the roads or on slopes maintained by HYD (Figure 2). While all trees in country parks are under the purview of AFCD, the figure of 31 500 only reflect those trees located at frequently used facilities in the parks.
- As at 2020, the eight core departments altogether had over 540 in-house personnel for tree management, and nearly 90% of them have attained some sorts of professional qualifications (e.g. certified arborist). Yet, the manpower level varied widely among the eight core departments. For instance, on average, each relevant ArchSD staff members took care of 30 240 trees, more than 10 times of the average of 2 944 for all eight core departments (Figure 3). The apparent high ratios could be linked to the departments' choice to contract out tree management services. Based on the latest available information, in the first nine months of 2015-2016, ArchSD spent HK\$50 million on such contracts which involved about 152 outsourced personnel. On the other hand, AFCD, with the lowest ratio among the eight core departments, reportedly had not engaged any service contractor to manage trees.

Tree management by government departments in Hong Kong (cont'd)

Figure 4 – Major tools and equipment for tree management held by departments^(a)

Tools/Equipment	As at 2020-2021	As at 2021-2022
For inspection		
Tomograph	38	41
LCSD	29	31
AFCD	4	4
Others ^(b)	5	6
Resistograph	52	59
LCSD	38	45
AFCD	8	8
Others ^(b)	6	6
Drones	6	12
LCSD	5	11
GLTMS	1	1
For maintenance/removal		
Chainsaws	1 109	889
LCSD	888	659
AFCD	217	230
HYD	4	0
Stump grinders (all held by LCSD)	10	10
Total	1 215	1 011

Notes: (a) Outsourced contractors also keep their own tools.
(b) Others include GLTMS, HYD and HD.

Figure 5 – Trees inspections and trees removed by core departments

	2018-2019	2019-2020	2020-2021
Number of tree inspections	47 088	47 961	41 153
Number of trees inspected	1 015 800	971 800	943 900
Number of trees with risks of failure removed	10 900 (1.1%)	7 800 (0.8%)	5 600 (0.6%)

Figure 6 – Number of tree failures and damages resulted

	Tree failures		Results of tree failures		
	Normal days	After typhoon ^(a)	Casualties resulted	Traffic obstruction	Damage to cars/properties
2018	276	60 800	20	71	87
2019	244	851	23	35	81
2020	358	1 041	16	109	137
2021	295	2 065	13	51	8

Note: (a) Refer to Tropical Cyclone Warning Signal No. 8 or above.

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Highlights

- Effective tree management relies on manpower, professional knowledge as well as appropriate tools and equipment. LCSD and AFCD appear to be most amply equipped with a wide variety of tools and equipment, though with an overwhelming number being chainsaws for tree maintenance and removal. Generally, the core departments have also increasingly employed more advanced inspection equipment to monitor tree health such as tomograph which produces 3D internal tree structure image, and resistograph that detects trunk decay and cavities. Even drones appeared to be gaining popularity. In just one year, the number of drones kept by LCSD for tree maintenance has increased from 5 to 11 (**Figure 4**). It is noted that another drone is being kept by the Greening, Landscape and Tree Management Section (“GLTMS”) of the Development Bureau.
- Based on the risk-based tree management approach, individual departments carry out tree inspections, mitigation and remedies in their properties. Over the past three fiscal years, the annual number of inspections ranged between 41 000 and 48 000, translating into an average of 20-23 trees in each inspection. In 2020-2021, tree inspections declined noticeably, which might be due to reduced number of trees managed, anti-COVID-19 restrictions, etc. The number and percentage of trees removed upon inspection have also seen a drop (**Figure 5**), which might partly be explained by improved tree health, among other factors. In order to minimize the hazard, GLTMS has since 2019 established a special inspection squad which randomly inspects 5% of trees inspection reports filed by the core departments and choose 100 spots of high risk for extra inspections to ensure that the departments manage trees according to government guidelines.
- Apart from removing trees to pre-empt any risks of tree failure, some trees might still accidentally collapse when faster-than-expected deterioration in conditions occur. While such accidents were not a commonplace, there were still over 200 tree failures during normal days in each of the past four years. These failures, however, were far less than failures directly caused by typhoon, especially in 2018 when typhoon Mangkhut hit Hong Kong (**Figure 6**). Nevertheless, even though overall there were less tree failures during 2019-2021 vis-à-vis 2018, it did not necessarily correlate with fewer casualties, traffic obstruction and/or property damages.

Data sources: Latest figures from Development Bureau.

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