

**For Discussion  
on 12 December 2017**

**LegCo Panel on Food Safety and Environmental Hygiene**

**Anti-mosquito Campaign 2018 and  
Prevention and Control of Biting Midges**

**Purpose**

This paper briefs Members on the Anti-mosquito Campaign 2018, including the concerted efforts made by various departments on this front as well as the prevention and control work carried out on biting midges.

**Background**

2. Apart from causing nuisance to humans, some species of mosquitoes may pose threat to public health as vectors of diseases, such as dengue fever (“DF”), Zika virus infection (“ZVI”) and Japanese encephalitis (“JE”). In Hong Kong, the prevailing species *Aedes albopictus* can spread DF and the principal type of mosquito that transmits JE is *Culex tritaeniorhynchus*. *Aedes aegypti*, which is considered the most important vector for ZVI to humans, is currently not found in Hong Kong; however, *Aedes albopictus* is also a potential vector of Zika virus. Hence, we must stay vigilant and keep up the effectiveness of our anti-mosquito work.

3. For DF, subsequent infections with other serotypes of dengue virus are more likely to result in severe dengue, which is a potentially fatal complication of DF. For ZVI, the current major concern is the possible association with adverse pregnancy outcome (microcephaly) and neurological and autoimmune complications such as Guillain-Barré Syndrome which could severely affect a child’s brain development, respiratory functions and self-care ability. At present, there is no vaccine on the market against DF or ZVI. Hence, keeping the environment clean to eliminate mosquito breeding grounds,

killing of adult mosquitos and avoiding mosquito bites are the only effective ways to prevent infection.

### **Dengue Vector Surveillance Programme**

4. Since 2003, the Food and Environmental Hygiene Department (“FEHD”) has put in place an enhanced dengue vector surveillance programme for monitoring the distribution of *Aedes albopictus* at selected areas, and for evaluating the effectiveness of mosquito prevention and control work carried out by various parties. The surveillance data collected also provide an informed basis for timely adjustment to our mosquito control strategies and measures.

5. Under the dengue vector surveillance programme, small plastic containers, known as ovitraps, are placed at selected locations for detecting the larval breeding rate of Aedine mosquitoes. The ovitrap index is the percentage of ovitraps that are found to have positive larval breeding result. Two different indices, namely the Area Ovitrap Index for *Aedes albopictus* (“AOI”) and the Monthly Ovitrap Index for *Aedes albopictus* (“MOI”), are recorded. AOI indicates the extensiveness of the distribution of Aedine mosquitoes in the surveyed area while MOI reflects the extensiveness of *Aedes albopictus* throughout the territory. Starting from 2004, the surveillance programme has been extended to cover all major port areas. The Port Monthly Ovitrap Index for *Aedes albopictus* (“PMOI”) is enumerated to reflect the overall monthly situation of mosquito breeding in the port areas. FEHD would review the programme regularly and make necessary enhancement to cope with the local dengue situation and urban development.

6. Apart from announcing all the indices each month on FEHD’s website and through press release, a rapid alert system targeting the management offices of residential premises, social welfare facilities, schools, construction sites and utilities companies has been enhanced to cover each of the 52 surveillance areas to ensure that anti-mosquito measures are taken promptly when the AOI of a particular area reaches the alert level of 20%. Whenever the AOI reaches 20%, subscribers to the system whose premises are situated within the surveillance area concerned will be individually notified by

the relevant Bureaux / Departments upon the publication of the AOI. Subscribers will be invited to post up specially designed notices in the common parts of their premises, alerting occupants and management staff of the need to take mosquito preventive and control actions promptly.

### *MOIs*

7. Up to October 2017, the MOIs were in general lower than those in previous years. A chart showing the trend is at **Annex I**. The MOIs recorded in the first three months of 2017 remained low between 0.0% and 0.1%. The MOIs rose from 1.8% in April to 14.2% (which was the peak of the year) in May. The MOI dropped to 10.2% in June, slightly rose to 10.6% in July, and gradually went down again to 2.8% in October. The MOI movements so far in 2017 were in general similar to the pattern in previous years except with the peak being advanced to May.

### *AOIs*

8. Up to October 2017, the highest AOI of 55.9% was recorded in Tseung Kwan O North, followed by 50.0% in Kowloon Bay, and 33.3% in Ma Wan all in May. The monthly AOIs for all 52 areas of surveillance are provided at **Annex II**. In total, 18 areas had recorded AOIs reaching or exceeding the alert level of 20% on at least one occasion. In response, FEHD convened district task force meetings and activated the rapid alert system for a total of 26 times to step up the co-ordination of government efforts in mosquito control and to mobilise community participation in anti-mosquito efforts.

### *PMOIs*

9. Up to October 2017, the ovitrap indices for all six groups in the port areas were below 20%. The highest ovitrap index of 8.1% was recorded in the group of Private Cargo Working Areas in July (see **Annex III**). The PMOIs in 2017 ranged from the lowest of 0% (in January to March) to the highest of 2.5% (in May and July). The PMOI movements showed a similar pattern as in previous years except a sharp drop was observed in June, between

the highest indices in May and July 2017. A chart showing the trend is at **Annex IV**.

10. FEHD will continue to work closely with the relevant Bureaux / Departments and organisations, including the Airport Authority, the Mass Transit Railway Corporation and freight forwarding companies, in strengthening the anti-mosquito work in the port areas. To lower the risks of *Aedes aegypti* entering Hong Kong via air traffic and better protect public health, the Port Health Office (“PHO”) under the Centre for Health Protection (“CHP”) of the Department of Health (“DH”) implemented new requirements on 26 April 2017, requiring all inbound aircraft from affected areas of Zika Virus Infection to conduct aircraft disinsection to prevent the importation of diseases through infected mosquitoes. According to the new requirement, for flights coming from Zika-affected areas (i.e. countries/areas in Category 1 or 2 classified by the World Health Organization that are considered to have ongoing Zika virus transmission), airlines/aircraft operators are required to provide the PHO with a declaration of aircraft disinsection as well as flight details and information on disinsection practice. The PHO will request operators practising regular disinsection to provide documentary proof and/or empty insecticide cans. As for aircraft without proof of disinsection, the PHO will require the airlines/aircraft operators concerned to carry out on-arrival disinsection. As at 27 October, meaning the first six months after implementation, all 57 business aviation airlines that operate incoming aircrafts from Zika-affected areas<sup>1</sup> have adopted disinsection measures, among which 14 of them had experience of carrying out on-arrival disinsection.

### **JE Vector Surveillance Programme**

11. In 2017, the JE vector surveillance has been carried out to cover relatively high risk areas in seven districts, namely Yuen Long, Tuen Mun, Sai Kung, North, Sham Shui Po, Southern and Kwai Tsing, once every month. A total of 851 samples of the principal vector (*Culex tritaeniorhynchus*) were

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<sup>1</sup> Around 200 nos. each day (figures of August 2017).

collected and tested during the period from January to October 2017. They were all found negative for JE virus.

### **Need for Concerted Actions against DF and JE**

12. Up to October 2017, there were one local and 89 imported DF cases in Hong Kong<sup>2</sup>. Concerted efforts are required to prevent outbreak of the disease since once it has taken root, the number of cases may go up significantly and the trend could be irreversible. Besides, there were five local JE cases recorded between January and October 2017. Two of those cases together with the blood donor of the first reported case of JE transmitted through blood transfusion were resided in Tin Shui Wai. In response to this, the FEHD and relevant departments had already strengthened mosquito control work in the areas, including conducting joint visits with staff of the Agriculture, Fisheries and Conservation Department to neighboring pig farms and providing technical assistance on mosquito prevention and control to the pig farmers. The Housing Department (“HD”) had already installed eleven additional mosquito trapping devices in the concerned estates to reduce the chance of the public to contact JE. Concerted efforts are needed to prevent local outbreak of mosquito borne diseases like DF and JE.

13. In response to the local dengue fever cases reported in 2016 and 2017, urban development as well as requests from the public and district councils, a total of five additional areas in Central & Western District, Kwun Tong District, Sha Tin District, Tsuen Wan District and Tuen Mun District will be covered in mid-2018. Annual review on the scope of the existing 52 survey areas will also be conducted at the end of 2017.

14. Starting from mid-2018, the survey frequency for all the 57 dengue vector surveillance (“DVS”) areas will be increased from one week per month to two weeks per month. To enhance the DVS at other port areas,

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<sup>2</sup> Number of DF cases from 2014 to 2016 is given below:

<b>Year</b>	<b>Local DF Cases</b>	<b>Imported DF Cases</b>
2014	3	109
2015	3	110+1 (unclassified)
2016	4	120

the frequency will be increased from two weeks per month to a weekly basis starting from mid-2018. The Hong Kong-Zhuhai-Macau Bridge will be covered in the DVS programme for port areas after its commission anticipated to be at the end of 2017. Dengue virus test will also continue to be carried out on dengue vectors collected from all port areas and in community where AOIs have reached or exceeded 10%.

### **Anti-mosquito Campaign 2018**

15. To enhance inter-departmental communication and cooperation for more effective implementation of respective mosquito control measures, the Inter-departmental Coordination Committee on Mosquito-Borne Diseases chaired by the CHP of DH has been subsumed under the Anti-mosquito Steering Committee. The Steering Committee also provides a more efficient platform for respective departments and Hospital Authority to grasp the latest development of mosquito-borne diseases and commence their work more swiftly. Spearheaded by the Anti-Mosquito Steering Committee, Bureaux / Departments have reviewed the effectiveness of measures taken in tackling the mosquito problem, and discussed ways to enhance co-operation to intensify anti-mosquito work.

16. In addition to about 700 departmental staff deployed on pest control (including mosquito control), FEHD engages private contractors to provide mosquito control services across the territory through roving teams. Together with the additional roving teams under the District-led Actions Scheme, the number of roving teams has increased by 7% (from 270 (with a private contractor workforce of about 1 620) in October 2016 to 289 in October 2017 (with a private contractor workforce of about 1 730)) to strengthen pest prevention and control work. A total of 47 roving teams have been added during dry season (November 2017 to February 2018) so as to maintain the same number of roving teams as in wet season 2017. FEHD will continue to deploy four Pest Control Inspection Teams (“PCITs”) to enhance inspection of construction sites and enforcement against mosquito breeding. Between late May and late November 2017, a total of 963 construction sites were inspected. Together with those instigated by the

District Pest Control Offices, a total of 283 prosecutions had been instigated (269 involving construction sites and 14 involving other premises).

17. FEHD will launch a new Anti-mosquito Campaign in early 2018 (“the Campaign”) in collaboration with relevant Bureaux / Departments to maintain the momentum. Bearing the theme “Prevent Japanese encephalitis and Dengue Fever - Act Now!”, the Campaign is scheduled for implementation by phases as follows –

Phase I: 12 February 2018 – 16 March 2018

Phase II: 23 April 2018 – 29 June 2018

Phase III: 13 August 2018 – 19 October 2018

18. FEHD’s pest control staff will step up inspection, preventive and control actions and publicity work during the Campaign. Mosquito breeding places will be eliminated or treated with larvicides. Potential breeding grounds and trouble spots identified by district pest control staff will also be covered. Special attention will be paid to areas in close proximity to residential premises, schools, construction sites, illegal cultivation sites, hospitals, waterfront public and private cargo working areas, cross boundary check points, typhoon shelters and cross boundary ferry terminals. FEHD has been installing mosquito screens at the vent pipes of the septic tanks of private village houses in March 2016 and in February 2017 as a proactive measure to prevent mosquito breeding in septic tanks. FEHD will continue to assess the situation in February 2018 with a view to installing new mosquito screens, if necessary. FEHD will also pay special attention to those areas which are prone to mosquito breeding, such as land filling sites in rural areas, and carry out inspections and take appropriate measures to prevent mosquito breeding. In addition, its professional staff will closely monitor the mosquito management approach adopted by other places, including advances in technology relating to the use of genetically modified mosquitoes to eliminate mosquitoes breeding.

19. Works sites, including sites for renovations and repairs, are risk

areas for mosquito breeding. In recognition of this, the Home Affairs Department will provide assistance in drawing the attention of owners' corporations of those housing estates / buildings that are undergoing or will shortly undergo repairs / maintenance / renovation to the importance of implementing anti-mosquito measures for prevention and control purposes. In addition, the Development Bureau is encouraging, through contractors' association, sub-contractors of private projects to actively participate in anti-mosquito work. It will also consider strengthening the relevant penalty level under the existing regulatory mechanism.

20. Community support is vital to the successful implementation of the Campaign. We will make use of a wide range of promotional channels, such as FEHD's website, posters, leaflets, Announcements in the Public Interest ("APIs"), VCDs and letters to target groups, for the purpose of encouraging community participation. We will review and revamp our APIs with a view to impressing the public about the risks of DF and ZVI. We will also organise a variety of events and activities, such as roving exhibitions at major shopping malls of housing estates, outreaching health talks, as well as games and theme exhibitions at the Health Education Exhibition and Resource Centre of FEHD. Available on FEHD's website is a "Guidebook on Control and Prevention of Mosquito Breeding" which gives illustrations on potential mosquito breeding places and advice on how best to eliminate them.

21. The District Councils will be invited to participate in the Campaign, including organising anti-mosquito activities at the district level. Relevant Bureaux / Departments will play an active role in the Campaign through the conduct of anti-mosquito activities in places under their charge and actions to enlist community support for the campaign through their networks. We will also strengthen public education and publicity programmes in concert with the District Councils as well as organizations such as the Hong Kong Construction Association, the Occupation Safety and Health Council, the Pest Control Personnel Association of Hong Kong, school heads associations, and the Federations of Parent-Teacher Associations, for the purpose of enhancing public understanding of mosquito-borne diseases



and the importance of mosquito control work. For example, stakeholders including relevant Bureaux / Departments as well as their contractors had been briefed on the importance of mosquito prevention and control in the bi-monthly Kai Tak Site Coordination Meeting convened by the Civil Engineering and Development Department.

22. The Anti-mosquito Plan for 2018 of all relevant Bueaux / Departments is at **Annex V**.

### **Prevention and Control of Biting Midges**

23. Biting midges are dipterous flies belonging to the family Ceratopogonidae which is a diverse family of insects with more than 6 000 species. There has been increasing public concern about biting midges in Hong Kong in recent years. Although all the members of this family are called biting midges, not all of them are actually blood sucking. Only the genera Culicoides, Leptoconops and Lasiohelea prey on vertebrate for blood. The midges under the subfamily Dasyheleinae are not only non-blood sucking but also help flower pollination and is beneficial in agriculture. Eggs of biting midges are usually laid on the surface of mud or wet soil, especially those with plenty of decaying vegetation. Biting midge larvae are aquatic or semi-aquatic. Adults have very short flight ranges, usually not more than 100 meters from their breeding places. Infestation of biting midges is seasonal and localised. The peak season for biting midge activities usually occurs in hot and humid summer. Biting activity varies among species. Lasiohelea and Leptoconops species are active during day time whereas Culicoides species bites human near sunrise and sunset. To most people, the bites of biting midges cause discomfort and irritation. Biting midges have only rarely been implicated as the primary vectors of pathogen transmission to or between humans.

24. Areas with dense vegetation are prone to infestation of biting midges. Environmental measures targeted at these areas could reduce

breeding of biting midges and effectively contain their infestation. The routine anti-mosquito and environmental management measures carried out by the FEHD in public places, such as removal of fallen leaves, decaying materials, silt in sand traps and surface channels, can reduce potential breeding places and help control infestation of biting midges. Whenever necessary, fogging operations to alleviate nuisance caused by biting midges and environmental measures to eliminate their breeding places would be carried out in areas with infestation of biting midges. FEHD would continue to keep in view the biting midges situation in public places through routine inspections and handling of complaints. Control measures against biting midges would be strengthened whenever necessary. Besides, FEHD would also provide technical assistance to relevant government departments in the prevention and control of biting midges in areas under their purview. If the biting midges infestation occurred within private properties, FEHD will also provide technical advice to the relevant parties to help them carrying out effective measures for controlling biting midges.

25. To further enhance the control of biting midges, FEHD invited Professor YU Yi-xin of China, renowned for studying biting midges, to visit Hong Kong in June 2016 with a view to providing advices and recommendations for us to study the local fauna of biting midges in the territory and review our control methodology. According to record, 51 species of blood sucking biting midges have been recorded in Guangdong Province.

26. Starting from mid-July 2017, FEHD has commenced a one-year territory-wide survey to investigate the distribution and species diversity of the blood sucking midges with a view to confirming the presence of any disease carrying biting midges. Sites with potential breeding grounds and with previous complaint records are being investigated. A total of 72 surveys have been conducted between mid-July and mid-November 2017 (including collections by human baits, nets and light traps at night time). A total of 329 samples of biting midges were collected which included six different blood sucking species. Among them, *Lasiohelea taiwana* and *Culicoides arakawai*

are the most prevalent species found. No disease carrying species has been found so far.

27. Human bait collections are also carried out during the survey to enumerate the average landing rate<sup>3</sup> of biting midge which acts as an indicator to show the activity of biting midges. The average biting midges landing rate gradually decreased from 19.5 in August to 13.3 in October indicating that although biting midges were still active in cooler and dryer months, their activeness decreased gradually as weather turned cold and dry. Surveys have also been conducted in locations with complaints of biting midges. Blood sucking biting midges were collected only in about forty percents of locations. Other collected biting midges were non-blood sucking species belonging to the subfamily Dasyheleinae.

## **Summary**

28. Members are invited to note the content of this paper.

**Food and Health Bureau**

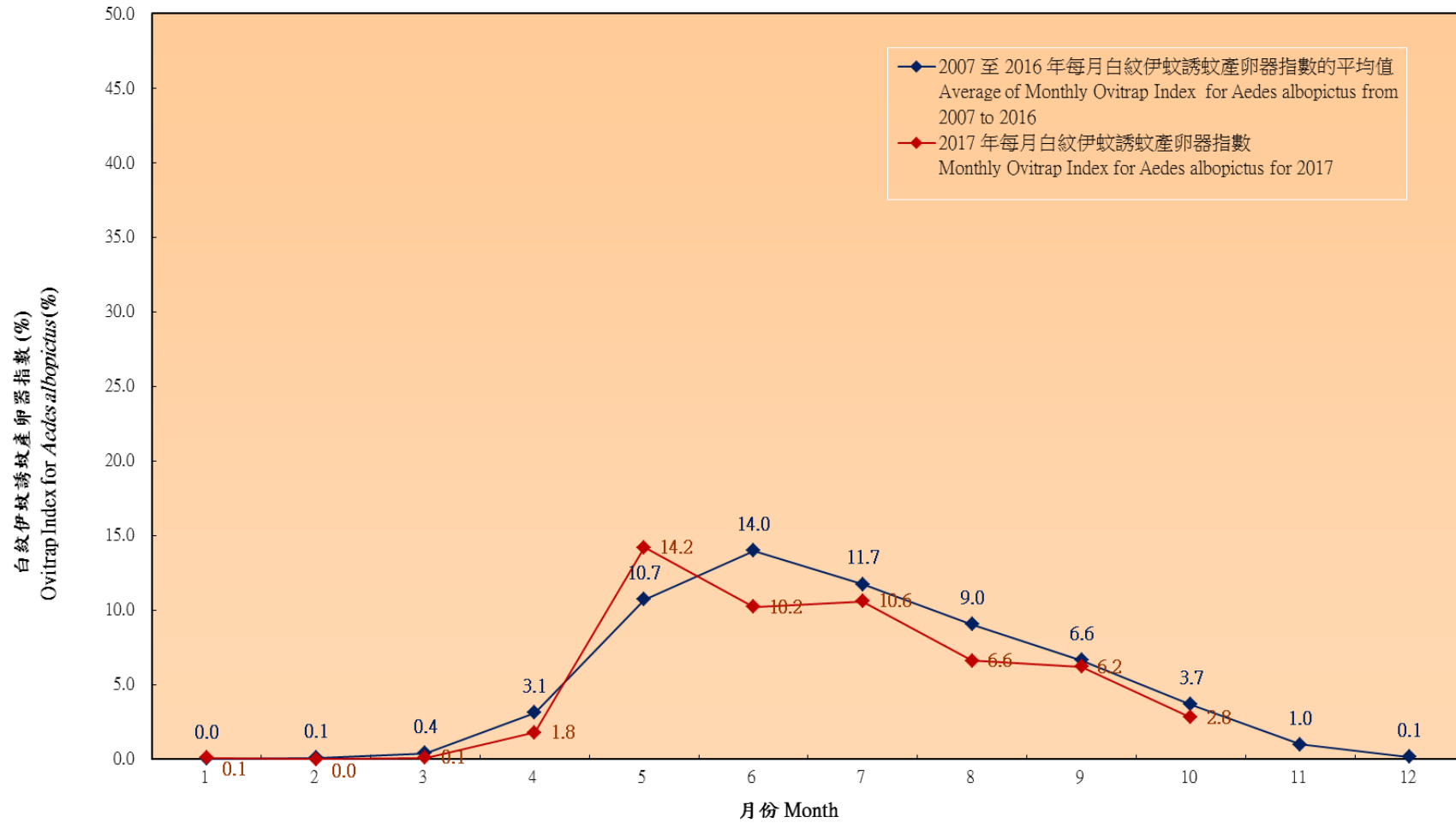
**Food and Environmental Hygiene Department**

**December 2017**

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<sup>3</sup> Landing rate is the average number of biting midges lands on exposed human skin per man per hour

2007-16年與2017年白紋伊蚊誘蚊產卵器指數比較  
 Comparison of Monthly Ovitrap Index for *Aedes albopictus* (2007-16 and 2017)



**Ovitrapp Indices for 52 locations in 19 districts – 2017 (up to Oct)**

**Annex II**

	監察地點 Locations	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct
港島及離島 (Hong Kong & Islands)	柴灣西 (Chai Wan West)	0.0%	0.0%	0.0%	0.0%	0.0%	17.9%	17.9%	3.7%	0.0%	1.8%
	天后 (Tin Hau)	0.0%	0.0%	0.0%	1.8%	28.6%	18.2%	26.5%	32.1%	7.7%	13.0%
	筲箕灣和西灣河 (Shau Kei Wan & Sai Wan Ho)	0.0%	0.0%	0.0%	0.0%	3.4%	7.0%	7.1%	3.7%	3.5%	1.8%
	北角 (North Point)	0.0%	0.0%	0.0%	0.0%	3.5%	12.3%	8.6%	12.5%	3.6%	3.4%
	灣仔北 (Wan Chai North)	0.0%	0.0%	0.0%	0.0%	5.4%	1.8%	3.6%	7.1%	1.8%	0.0%
	跑馬地 Happy Valley)	0.0%	0.0%	0.0%	1.8%	5.4%	16.7%	9.4%	8.9%	0.0%	1.8%
	中環、上環和西營盤 (Central, Sheung Wan & Sai	0.0%	0.0%	0.0%	1.6%	6.1%	1.6%	10.4%	6.3%	4.5%	7.6%
	西環 (Sheung Wan)	0.0%	0.0%	0.0%	0.0%	10.9%	11.1%	18.5%	5.6%	7.3%	0.0%
	香港仔和鴨脷洲 (Aberdeen & Ap Lei Chau)	0.0%	0.0%	0.0%	0.0%	9.8%	0.0%	11.3%	1.9%	9.6%	5.6%
	薄扶林 (Pokfulam)	0.0%	0.0%	0.0%	1.8%	21.4%	1.9%	7.4%	5.3%	7.0%	3.6%
	深水灣和淺水灣 (Deep Water Bay & Repulse Bay)	0.0%	0.0%	0.0%	5.5%	23.6%	11.5%	7.5%	3.8%	11.1%	0.0%
	長洲 (Cheung Chau)	0.0%	0.0%	0.0%	0.0%	11.4%	5.6%	2.8%	2.8%	0.0%	2.8%
	東涌 (Tung Chung)	0.0%	0.0%	0.0%	3.0%	22.9%	10.5%	7.9%	5.4%	2.9%	0.0%
九龍 (Kowloon)	尖沙咀 (Tsim Sha Tsui)	0.0%	0.0%	0.0%	6.9%	8.9%	10.3%	5.9%	14.8%	10.6%	10.7%
	尖沙咀東 (Tsim Sha Tsui East)	0.0%	0.0%	0.0%	1.8%	20.0%	13.2%	13.5%	10.1%	7.4%	7.4%
	旺角 (Mong Kok)	0.0%	0.0%	0.0%	0.0%	8.9%	3.4%	8.9%	5.2%	4.3%	1.8%
	荔枝角 (Lai Chi Kok)	0.0%	0.0%	0.0%	0.0%	7.3%	12.0%	9.1%	3.8%	1.9%	0.0%
	深水埗東 (Sham Shui Po	0.0%	0.0%	0.0%	0.0%	11.1%	9.1%	10.9%	5.7%	9.3%	0.0%

	監察地點 Locations	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct
	長沙灣 (Cheung Sha Wan)	0.0%	0.0%	0.0%	1.8%	14.5%	8.9%	0.0%	0.0%	1.8%	1.8%
	九龍城北 (Kowloon City North)	0.0%	0.0%	0.0%	0.0%	13.0%	14.5%	16.4%	4.0%	3.7%	0.0%
	紅磡 (Hung Hom)	0.0%	0.0%	0.0%	0.0%	8.9%	1.8%	3.6%	3.6%	3.6%	1.9%
	何文田 (Ho Man Tin)	0.0%	0.0%	0.0%	0.0%	2.0%	11.3%	9.4%	3.8%	1.0%	0.0%
	樂富西 (Lok Fu West)	0.0%	0.0%	0.0%	0.0%	16.7%	15.5%	26.7%	6.6%	15.3%	1.7%
	啟德北 (Kai Tak North)	0.0%	0.0%	0.0%	2.6%	15.8%	10.5%	16.2%	20.0%	16.2%	7.9%
	黃大仙中 (Wong Tai Sin Central)	0.0%	0.0%	0.0%	0.0%	12.7%	18.8%	12.5%	9.2%	3.1%	14.1%
	鑽石山 (Diamond Hill)	0.0%	0.0%	0.0%	0.0%	7.4%	7.8%	7.7%	7.4%	1.9%	3.7%
	牛池灣 (Ngau Chi Wan)	0.0%	0.0%	0.0%	5.6%	25.5%	20.4%	13.2%	17.8%	5.7%	8.0%
	觀塘中 (Kwun Tong Central)	0.0%	0.0%	0.0%	13.3%	26.2%	18.0%	10.2%	3.4%	9.7%	0.0%
	藍田 (Lam Tin)	0.0%	0.0%	0.0%	1.9%	22.2%	14.5%	5.5%	5.5%	11.1%	1.9%
九龍灣 (Kowloon Bay)	0.0%	0.0%	0.0%	8.6%	50.0%	32.8%	19.1%	9.9%	14.0%	0.0%	
新界東(New Territories East)	將軍澳南 (Tseung Kwan O South)	1.6%	0.0%	0.0%	8.2%	27.4%	9.8%	9.5%	10.7%	4.8%	3.3%
	將軍澳北 (Tseung Kwan O North)	0.0%	0.0%	3.3%	1.6%	55.9%	21.7%	18.3%	17.2%	26.2%	1.7%
	西貢市 (Sai Kung Town)	0.0%	0.0%	0.0%	0.0%	24.0%	4.0%	10.0%	0.0%	6.0%	0.0%
	馬鞍山 (Ma On Shan)	0.0%	0.0%	0.0%	0.0%	0.0%	9.4%	6.3%	3.2%	1.6%	8.1%
	圓洲角 (Yuen Chau Kok)	0.0%	0.0%	0.0%	0.0%	0.0%	8.8%	6.8%	3.4%	3.5%	0.0%
	大圍 (Tai Wai)	0.0%	0.0%	0.0%	0.0%	8.1%	18.0%	4.9%	8.2%	3.3%	1.6%
	大埔 (Tai Po)	0.0%	0.0%	0.0%	1.9%	13.0%	5.5%	18.5%	5.5%	5.6%	0.0%

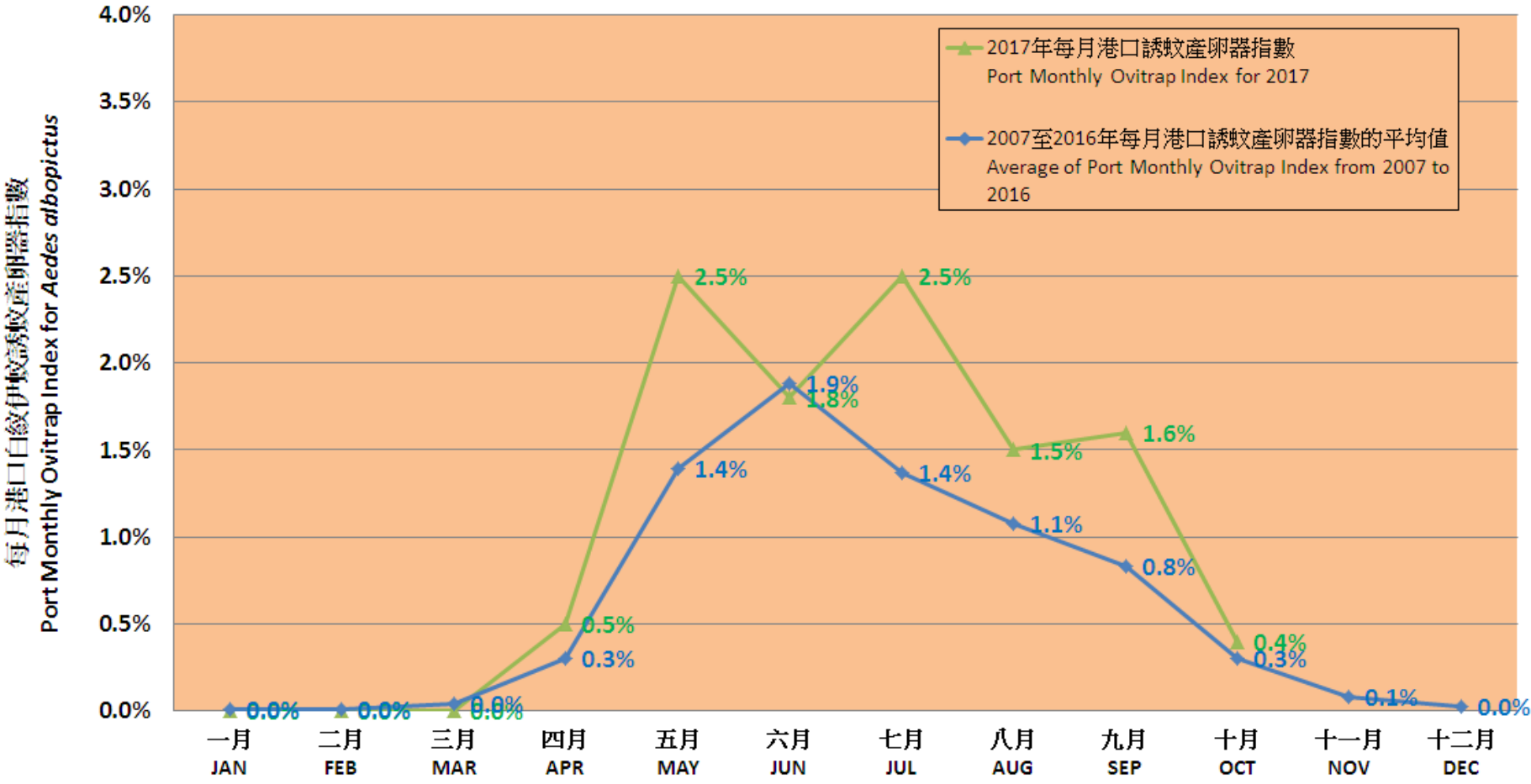
	監察地點 Locations	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct
	粉嶺 (Fanling)	0.0%	0.0%	0.0%	1.9%	20.0%	3.6%	12.7%	3.6%	9.1%	0.0%
	上水 (Sheung Shui)	0.0%	0.0%	0.0%	0.0%	11.3%	1.8%	12.7%	0.0%	7.4%	7.3%
新界西(New Territories West)	天水圍 (Tin Shui Wai)	0.0%	0.0%	0.0%	0.0%	8.6%	4.8%	6.7%	8.1%	9.7%	3.2%
	元崗 (Yuen Kong)	0.0%	0.0%	0.0%	4.0%	8.0%	8.0%	24.0%	4.0%	4.0%	4.2%
	元朗市 (Yuen Long Twon)	0.0%	0.0%	0.0%	0.0%	3.6%	1.9%	7.4%	3.6%	1.9%	0.0%
	屯門南 (Tuen Mun South)	0.0%	0.0%	0.0%	0.0%	3.6%	3.7%	3.8%	11.1%	5.5%	0.0%
	屯門北 (Tuen Mun North)	0.0%	0.0%	0.0%	0.0%	18.5%	6.2%	4.7%	9.4%	4.8%	4.6%
	掃管笏 (So Kwun Wat)	0.0%	0.0%	0.0%	0.0%	0.0%	3.6%	5.5%	3.7%	3.6%	1.9%
	荃灣市 (Tsuen Wan Town)	0.0%	0.0%	0.0%	6.7%	1.7%	5.2%	6.8%	1.7%	1.7%	0.0%
	馬灣 (Ma Wan)	0.0%	0.0%	0.0%	0.0%	33.3%	12.0%	4.0%	4.0%	0.0%	0.0%
	上葵涌 (Sheung Kwai Chung)	0.0%	0.0%	0.0%	5.7%	13.2%	5.6%	10.2%	1.9%	3.7%	0.0%
	葵涌 (Kwai Chung)	0.0%	0.0%	0.0%	0.0%	13.2%	16.0%	12.0%	0.0%	1.9%	0.0%
	荔景 (Lai King)	0.0%	0.0%	0.0%	0.0%	14.5%	1.9%	9.1%	3.6%	11.1%	3.6%
	青衣南 (Tsing Yi	0.0%	0.0%	0.0%	1.8%	16.1%	10.3%	17.2%	1.8%	0.0%	0.0%
青衣北 (Tsing Yi North)	0.0%	0.0%	1.8%	3.6%	30.9%	24.1%	12.7%	5.8%	20.0%	0.0%	
每月白紋伊蚊誘蚊產卵器指數 Monthly Ovitrap Index for <i>Aedes albopictus</i>		0.1%	0.0%	0.1%	1.8%	14.2%	10.2%	10.6%	6.6%	6.2%	2.8%

**Results of Ovitrap Surveillance in Port Areas in 2017 (up to Oct)**

監察地點 Location	1 月 Jan	2 月 Feb	3 月 Mar	4 月 Apr	5 月 May	6 月 Jun	7 月 Jul	8 月 Aug	9 月 Sep	10 月 Oct
香港國際機場 Hong Kong International Airport	0.0%	0.0%	0.0%	<b>0.5%</b>	<b>1.9%</b>	<b>1.2%</b>	<b>1.9%</b>	<b>1.2%</b>	<b>1.2%</b>	<b>0.1%</b>
陸路邊境口岸 Cross Boundary Check Points on Land	0.0%	0.0%	0.0%	<b>1.8%</b>	<b>5.9%</b>	<b>6.2%</b>	<b>5.0%</b>	<b>2.4%</b>	<b>1.8%</b>	0.0%
私人貨物裝卸區 Private Cargo Working Areas	0.0%	0.0%	0.0%	<b>0.6%</b>	<b>5.6%</b>	<b>5.6%</b>	<b>8.1%</b>	<b>5.0%</b>	<b>5.7%</b>	<b>1.3%</b>
出入境碼頭 Cross Boundary Ferry Piers	0.0%	0.0%	0.0%	0.0%	<b>0.4%</b>	<b>0.4%</b>	<b>0.4%</b>	0.0%	<b>0.9%</b>	0.0%
貨櫃碼頭 Container Terminals	0.0%	0.0%	0.0%	0.0%	<b>0.8%</b>	<b>0.3%</b>	0.0%	0.0%	<b>0.6%</b>	0.0%
公共貨物裝卸區 Public Cargo Working Areas	0.0%	0.0%	0.0%	<b>0.4%</b>	<b>6.3%</b>	<b>4.7%</b>	<b>7.6%</b>	<b>5.2%</b>	<b>6.3%</b>	<b>5.5%</b>
每月港口白紋伊蚊誘 蚊產卵器指數 Port Monthly Ovitrap Index for <i>Aedes</i> <i>albopictus</i>	0.0%	0.0%	0.0%	<b>0.5%</b>	<b>2.5%</b>	<b>1.8%</b>	<b>2.5%</b>	<b>1.5%</b>	<b>1.6%</b>	<b>0.4%</b>



2007至2016年與2017年每月港口白紋伊蚊誘蚊產卵器指數比較  
Comparison of Port Monthly Ovitrap Index for *Aedes albopictus*: 2007-2016 and 2017



**Anti-mosquito Plan for 2018**

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
<b>1. Agriculture Fisheries, and Conservation Department (AFCD)</b>	<p><b><u>Fish Farms and Fishermen</u></b></p> <ul style="list-style-type: none"> <li>● To distribute anti-mosquito advisory leaflets to fish farmers through various channels including AFCD's licence renewal service counters, regular farm inspections, through the representatives in the Mariculturists Liaison and Support Group of the Red Tide Reporting Network, and other supporting services to fish farmers.</li> <li>● To issue publicity letters together with anti-mosquito leaflets to fishermen associations.</li> </ul> <p><b><u>Local Livestock Farms</u></b></p> <ul style="list-style-type: none"> <li>● To issue advisory letters and publicity leaflets to livestock farmers and livestock associations to raise their awareness of anti-mosquito measures.</li> <li>● To inspect livestock farms for any potential mosquito breeding sites and remind farmers to take proper anti-mosquito measures during routine farm inspections.</li> </ul> <p><b><u>Government Wholesale Food Markets</u></b></p> <ul style="list-style-type: none"> <li>● To issue advisory letters and notices at regular intervals to market traders and cleansing contractors to remind them to keep the markets clean and to raise their awareness of anti-mosquito measures.</li> <li>● To closely monitor the performance of the cleansing contractors and ensure that they will apply larvicide regularly to market drains to prevent breeding of mosquitoes.</li> <li>● In addition to regular larvicide application, to arrange special application of larvicide upon receipt of pest problem reports from market users.</li> </ul>

- To carry out special operations to keep the markets clean and to eliminate potential mosquito breeding sites in their vicinity.

#### **Cheung Sha Wan Wholesale Vegetable Market under Vegetable Marketing Organisation (VMO)**

- To continue to conduct regular inspections, surprise checks and cleansing of the wholesale vegetable market and issue notices to market users advising them of the importance of keeping the market clean and eliminating potential mosquito breeding sites in its vicinity.
- To maintain close contact with FEHD to eliminate potential mosquito breeding sites in areas adjacent to the VMO market premises.
- To conduct “Market Clean-up Days” as promotional activities on market cleanliness and anti-mosquito measures on a biweekly basis.

#### **Wholesale Fish Markets under Fish Marketing Organisation (FMO)**

- To continue to conduct regular inspections, surprise checks and cleansing of all FMO markets and issue advisory notices to market users advising them of the importance of maintaining the cleanliness of the market and removal of stagnant water.
- To organise “Market Clean-up Days” as promotional activities of market cleanliness and anti-mosquito measures on a biweekly basis.

#### **Country Parks**

- To regularly inspect and cleanse recreation sites, hiking trails and construction sites and carry out clearance of overgrown vegetation in these areas.
- To continue to advise visitors to protect themselves against bites by mosquitoes and by other insects through oral advice, leaflets, posters and warning signs.
- To level depressions which can hold water and remove water storage devices found in country parks to prevent mosquito breeding.
- To advise morning walkers not to keep containers in their gardens and hillsides and remove any unauthorised planting sites and water storage devices found in country parks.

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	<p><b><u>Mai Po Nature Reserve and Hong Kong Wetland Park</u></b></p> <ul style="list-style-type: none"> <li>● To display posters at suitable locations in the Mai Po Nature Reserve (MPNR) and the Hong Kong Wetland Park (HKWP) to remind staff of AFCD and the World Wide Fund for Nature Hong Kong (WWFHK) to take measures to eliminate mosquito breeding sites and to advise them and visitors to take preventive measures to avoid mosquito bites.</li> <li>● To distribute anti-mosquito leaflets to visitors in MPNR.</li> <li>● Staff of WWFHK and contractors of HKWP will continue with the regular removal of stagnant water and potential mosquito breeding sites in all their buildings, structures, boats, visitor facilities and gei wai bund areas in MPNR and HKWP.</li> </ul>
<p><b>2. Architectural Services Department (ArchSD)</b></p>	<ul style="list-style-type: none"> <li>● To continue monitoring the contractors' measures on mosquito prevention and control in ArchSD construction sites according to DEVB's enhanced anti-mosquitos measures and ArchSD's operational instruction.</li> <li>● To disseminate FEHD and DH's message on mosquito-borne diseases and mosquitos prevention measures relating to construction sites to project staff and contractors.</li> </ul>
<p><b>3. Civil Engineering and Development Department (CEDD)</b></p>	<ul style="list-style-type: none"> <li>● To closely monitor the performance of contractors of all CEDD construction sites on mosquito prevention and control following the DEVB's enhanced anti-mosquito measures being in force.</li> </ul>
<p><b>4. Development Bureau (DEVB)</b></p>	<ul style="list-style-type: none"> <li>● Having regard to mosquito breeding in construction sites, DEVB has been reminding contractors of public works sites to carry out mosquito control measures on construction sites.</li> <li>● Works departments and contractors will jointly step up anti-mosquito measures taking into account of Area Ovitrap Index (AOI) of the areas where construction sites are located.</li> <li>● In addition, the Bureau, through the contractors' association, has appealed to contractors of private projects for proactively participating in anti-mosquito work.</li> </ul>

Bureau/ Department	Anti-mosquito Plan
<p>5. Department of Health (DH)</p>	<p><b><u>Publicity activities on mosquito-borne diseases</u></b></p> <ul style="list-style-type: none"> <li>● Publicity and health education activities on prevention of mosquito-borne diseases will be continued in 2018: <ul style="list-style-type: none"> <li>(a) to liaise with the Information Services Department to coordinate the broadcast of relevant television and radio APIs;</li> <li>(b) to enhance broadcast of APIs and videos via various channels including the Facebook page and YouTube Channel of the Centre for Health Protection (CHP);</li> <li>(c) to arrange media interviews and publication of feature articles on mosquito-borne diseases in newspapers and newsletters;</li> <li>(d) to provide updated relevant information on CHP’s website and through the DH’s 24-Hour Health Education Hotline; to send emails to relevant stakeholders informing them of the latest development and the preventive measures, and solicit their coordination and support to strengthen publicity activities;</li> <li>(e) to establish hyperlinks on the websites of DH and other relevant organisations;</li> <li>(f) to enhance publicity in spring and summer through the Summer Programme 2018 by distributing related printed materials on health education to various places including health sectors, schools, public and private housing estates, and facilities managed by LCSD; and</li> <li>(g) to enhance publicity at community level by displaying giant wall banners on government buildings, holding roving exhibitions using HEALTH Direct van, and displaying rolling text in public housing estates.</li> </ul> </li> </ul> <p><b><u>Port health measures</u></b></p> <ul style="list-style-type: none"> <li>● Adopting preventive measures at boundary control points (BCPs) and providing health advice to travellers: <ul style="list-style-type: none"> <li>(a) to continue monitoring hygiene conditions and control of mosquito breeding sites at the airport, all sea and land BCPs, cargo handling facilities and cross-boundary conveyances through regular inspections and close liaison with relevant stakeholders including operators of BCPs and conveyances, District Pest Control Teams and Pest Control Advisory Section of FEHD;</li> <li>(b) to continue distributing leaflets and displaying posters on anti-mosquito measures at all BCPs;</li> <li>(c) to continue uploading updated health messages and outbreak news onto the DH’s Travel Health Service website;</li> </ul> </li> </ul>

Bureau/ Department	Anti-mosquito Plan
	<p>(d) to continue holding health talks/providing advice for travel agents/tour guides through the Travel Industry Council of Hong Kong;</p> <p>(e) to include information on mosquito-borne diseases including Zika virus infection, dengue fever, Japanese encephalitis, malaria and yellow fever in the travel health bulletins;</p> <p>(f) to require all aircrafts coming from Zika-affected areas to conduct disinsection;</p> <p>(g) to continue regular inspection of vessels in connection with application for Ship Sanitation Certificates;</p> <p>(h) to continue regular inspection of cross boundary conveyances to ensure mosquito control measures are in good order;</p> <p>(i) to provide travel advice and vaccination/chemoprophylaxis regarding mosquito-borne diseases to outbound travellers in Travel Health Centres;</p> <p>(j) to liaise with BCP operators and cross-boundary conveyances to make announcement on mosquito-borne disease when necessary; and</p> <p>(k) to hold meeting with FEHD to review the Ovitrap Index and enhance mosquito control measures of the airport, all sea &amp; land BCPs and cargo handling facilities.</p> <p>● Other measures:</p> <p>(a) to carry out investigation and control work on notifiable diseases under the Prevention and Control of Disease Ordinance (Cap. 599) reported to CHP, such as dengue fever, Japanese encephalitis, malaria and Zika virus infection, etc.;</p> <p>(b) to disseminate information including updates on global and local situation on mosquito-borne diseases and health education messages through letter-to-doctor, letter-to-institutions, press releases and via the articles published in Communicable Diseases Watch as appropriate;</p> <p>(c) to convene meetings of Scientific Committee on Vector-borne Diseases (SCVBD) to discuss the prevention and control measures of mosquito-borne diseases;</p> <p>(d) to participate in meetings of the Anti-Mosquito Steering Committee (AMSC) chaired by the Under Secretary for Food and Health;</p> <p>(e) to participate in meetings of Interdepartmental Working Group on Pest Prevention and Control (IWGPPC) chaired by Assistant Director (Administration) of FEHD; and</p>

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	(f) to maintain close communication with the World Health Organization (WHO) and health authorities of other places, including Guangdong and Macau, to closely monitor the latest development of mosquito-borne diseases including Zika virus infection.
<b>6. Drainage Services Department (DSD)</b>	<ul style="list-style-type: none"> <li>● Closely monitor the performance of site contractors on mosquito prevention and control.</li> <li>● Prevent keyholes on manhole covers from breeding of mosquitoes.</li> <li>● Strengthen mosquito prevention and control at: - <ul style="list-style-type: none"> <li>➢ managed premises,</li> <li>➢ drainage channels, and</li> <li>➢ others (as specified).</li> </ul> </li> <li>● Based on the departmental guidance to carry out mosquito prevention measures according to AOI and POI.</li> <li>● Preparedness for strengthening mosquito control in response to local transmission of mosquito borne diseases.</li> <li>● Carried out regular and surprise checks on sites and workplaces.</li> <li>● Disseminated mosquito messages to the in-house and contractor's personnel.</li> <li>● Attended regional task force meetings chaired by FEHD and followed up any improvement measures recommended.</li> <li>● Promoted mosquito prevention through posters and leaflets.</li> <li>● Disseminated the relevant messages from FEHD and DH.</li> </ul>
<b>7. Electrical and Mechanical Services Department (EMSD)</b>	<ul style="list-style-type: none"> <li>● To closely monitor the anti-mosquito situations of public works sites</li> <li>● To review the effectiveness of the contractors' anti-mosquito measures</li> <li>● To implement appropriate anti-mosquito measures within our maintenance depots</li> </ul>
<b>8. Environmental Protection Department (EPD)</b>	<p><b>Landfills</b></p> <ul style="list-style-type: none"> <li>● Mosquito preventive and control measures are implemented by the contractors within the strategic and restored landfills regularly.</li> <li>● EPD staff carries out regular inspections and reminded the contractors to remove any stagnant water spotted.</li> </ul>

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> <li>● Contractors are reminded to maintain anti-mosquito measures and alert their workers about the mosquito problems regularly.</li> </ul> <p><b>Refuse Transfer Stations (RTSs) &amp; T.PARK</b></p> <ul style="list-style-type: none"> <li>● The contractors operating the RTSs and T.PARK will implement the following anti-mosquito measures: <ul style="list-style-type: none"> <li>(a) to carry out pest control work, such as application of insect repellents, regularly;</li> <li>(b) to remove any stagnant water spotted or treat any standing water with an oil to prevent mosquito breeding;</li> <li>(c) to store, cover or treat any items, including constructional plant and mobile plant, capable of retaining water to prevent water collection in them;</li> <li>(d) to display and distribute anti-mosquito publicity materials, such as posters and leaflets, obtained from the FEHD; and</li> <li>(e) to alert their workers about the mosquito problems.</li> </ul> </li> <li>● EPD staff will closely monitor the contractors' performance on anti-mosquito measures.</li> </ul> <p><b>EcoPark</b></p> <ul style="list-style-type: none"> <li>● The management contractor “<i>shall provide a preventative and responsive service to eradicate pests and vermin</i>” in accordance with the contract. They would hire a sub-contractor to carry out pest control in the Administration Building on an annual basis, and apply larvicides in public open area regularly. Moreover, they would display “anti-mosquito” posters in the Visitor Centre and distribute “anti-mosquito” posters / leaflets / notices to EcoPark tenants regularly.</li> </ul> <p><b>Chemical Waste Treatment Centre (CWTC) &amp; Animal Waste Composting Plant (AWCP)</b></p> <ul style="list-style-type: none"> <li>● The contractor is required to plan for and conduct the anti-mosquito programme to control and prevent mosquito problems in general and dengue fever. The programme is set to encourage site staff to participate in preventing and controlling mosquito breeding in the site; eliminate breeding sites for mosquitoes especially containers; and arouse and maintain the awareness of site staff on the potential risk of dengue fever transmission.</li> </ul>



<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	<p><b>Waste Electrical and Electronic Equipment (WEEE).PARK &amp; Community Green Centres</b></p> <ul style="list-style-type: none"> <li>● To closely monitor the performance of the contractor of WEEE.PARK and operators of the Community Green Centres (CGSs) to ensure that effective anti-mosquito measures are implemented in these facilities.</li> </ul>
<p><b>9. Education Bureau (EDB)</b></p>	<ul style="list-style-type: none"> <li>● EDB will collaborate with FEHD to organise a seminar on dengue fever and other mosquito-transmitted diseases for school personnel in May 2018. It will also alert schools within 100 m of any positive traps identified in FEHD's Monthly Ovitrap Surveys to strengthen preventive measures against mosquitoes.</li> <li>● In order to promote the message of mosquito prevention and control among parents, EDB will assist in arranging representatives of FEHD and DH to brief the Federation of Parent-Teacher Associations of the 18 districts at the district level, especially in districts with relatively high ovitrap indices.</li> <li>● Emails will be sent to district school heads associations to remind schools to strengthen anti-mosquito measures, and draw their attention to the fact that schools might be fined of inadequate anti-mosquito measures efforts. Letters will also be issued to all schools reminding them to stay vigilant and put in place the various hygienic and preventive measures against communicable disease, including dengue fever as well as follow CHP's recommendations.</li> </ul>
<p><b>10. Food and Environmental Hygiene Department (FEHD)</b></p>	<ul style="list-style-type: none"> <li>● In 2017 (up to 10 November), FEHD instigated 271 prosecutions for mosquito breeding in premises pursuant to the Public Health and Municipal Services Ordinance (Cap. 132), among which 257 involved construction sites and 14 involved other premises. FEHD will continue to take enforcement actions against persons in breach of the Ordinance.</li> <li>● FEHD will continue to deploy four Pest Control Inspection Teams to enhance inspection of construction sites and enforcement against mosquito breeding.</li> <li>● FEHD will continue to assist HD in taking enforcement action against households of premises in which mosquito breeding is found.</li> </ul>

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> <li>● Since the activation of the Alert Response Level under the Government's Preparedness and Response Plan for Zika virus infection on 11 March 2016, FEHD has convened monthly district anti-mosquito task force meetings with the government departments/parties concerned and has provided necessary advice and assistance to them in formulating mosquito prevention strategies.</li> <li>● Regarding the mosquito problem in rural areas, apart from placing emphasis on mosquito control for village houses, FEHD has installed mosquito screens at the vent pipes of septic tanks of private village houses since March 2016 and February 2017 as a proactive measure to prevent mosquito breeding in septic tanks. FEHD will continue to assess the situation in February 2018 with a view to installing new mosquito screens, if necessary.</li> <li>● With effect from January 2017, twenty more ovitraps have been set up in seven surveyed areas of Tseung Kwan O South, Central, Sheung Wan and Sai Ying Pun, Pokfulam, Hung Hom, Wan Chai North, Tin Hau and Wong Tai Sin Central to cover locations related to local dengue fever cases reported in 2016.</li> <li>● A total of 5 survey areas will be added in 2018, making up a total of 57 survey areas, to cover locations related to local dengue fever cases reported in 2016 and 2017 as well as to cope with the urban development and requests from the public. The 5 new survey areas will be identified one each in Central and Western, Kwun Tong, Shatin, Tsuen Wan and Tuen Mun.</li> <li>● In 2018, the frequency of dengue vector surveillance in the above-mentioned 57 areas will be increased from one week per month to two weeks per month. <ul style="list-style-type: none"> <li>■ FEHD will maintain the ovitrap rapid alert system targeting at the management offices of residential premises, social welfare facilities, schools and construction companies with work sites that fall within the 52 areas of surveillance. Subscribers to the system will be notified immediately when the monthly AOI of the area where their premises are located has reached or exceeded the alert level of 20%. They will also be requested to post up specially designed alert notices in the common areas in their premises.</li> </ul> </li> </ul>

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> <li>■ Tests on dengue virus and Zika virus will be conducted on dengue vectors collected in areas where Area Ovitrap Indices for <i>Aedes albopictus</i> (AOIs) have reached/exceeded 10%.</li> <li>■ The dengue vector surveillance in all the 30 land and sea ports will be stepped up from biweekly to weekly in 2018 which will be of the same frequency as the Airport.</li> <li>● The Japanese encephalitis vector surveillance programme has been extended to cover strategic locations in Tuen Mun, Sai Kung, North, Sham Shui Po, Southern and Kwai Tsing districts in addition to Yuen Long district. Trapping of adult mosquitoes will be conducted in all the selected locations monthly throughout the years for test on Japanese encephalitis virus.</li> <li>● Tests on dengue virus and Zika virus will be conducted on dengue vectors collected from ovitraps set up in all port areas.</li> <li>● In response to the request from the Labour Department (LD), FEHD provided in September 2016 a list of contact points for LD's subsequent referral of cases of water accumulation in construction sites leading to mosquito breeding.</li> <li>● FEHD will continue to convene the Inter-departmental Working Group on Pest Prevention and Control Meeting to take stock of the mosquito prevention and control measures taken by the relevant bureau/departments. FEHD will continue to work closely with them and review their mosquito prevention and control measures on a quarterly basis.</li> <li>● Message of strengthening mosquito prevention and control will be propagated to the relevant departments and stakeholders through the following channels: <ul style="list-style-type: none"> <li>(a) during the Kai Tak Site Coordination Meeting held among works departments and contractors carrying out construction works in Kai Tak area on a bi-monthly basis;</li> <li>(b) through the Joint Utilities Policy Group meetings held among utilities companies; and</li> <li>(c) through the Ad Hoc Inter-departmental Working Group on Mosquito Prevention at Work Sites meetings held among works departments.</li> </ul> </li> </ul>

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	<ul style="list-style-type: none"> <li>● FEHD has worked with the Occupational Safety and Health Council and the Labour Department to prepare two sets of guidelines on mosquito control for construction site workers and supervisors respectively. Both have been uploaded onto the departmental website. FEHD will review and update the content of the two guidelines as necessary.</li> <li>● The requirement of aircraft disinsection had come into effect in April 2017. FEHD has worked closely with the Port Health Office of DH and issued a set of technical guidelines for aircraft operators. FEHD will continue to provide technical assistance in this respect.</li> <li>● FEHD and DH have jointly prepared a set of information leaflet on the use of insect repellent. An infographic has been uploaded to the FEHD's website for reference by the public. FEHD will review and update the content of the information leaflet and infographic as necessary.</li> <li>● FEHD will continue to obtain information on the locations of new construction sites/road works from HD and HyD under the established mechanism, and work closely with HAD and BD with a view to enhancing mosquito control when carrying out minor building works.</li> <li>● FEHD has been working with LandsD in uploading the information of local dengue case/Zika virus infection cases onto the Geographic Information Hub (GIH) for easy reference and analysis on local case distribution. Information of local dengue fever cases in 2016 and 2017 is now available on GIH.</li> <li>● FEHD will continue to provide pest control (including mosquito control) training courses to HD and LCSD staff.</li> </ul> <p><b><u>Publicity and Education Activities in 2018</u></b></p> <ul style="list-style-type: none"> <li>● Radio and TV APIs will be broadcast throughout the year.</li> <li>● The 2018 diary on anti-mosquito measures will be uploaded to FEHD's website.</li> <li>● Latest readings of Area Ovitrap Index (AOI), Monthly Ovitrap Index for <i>Aedes albopictus</i> (MOI) and Port Ovitrap Index for <i>Aedes albopictus</i> (POI) will be released to the press on a monthly basis.</li> <li>● Anti-mosquito exhibitions will be staged at the Health Education Exhibition and Resource Centre.</li> </ul>

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> <li>● The slogan “Prevent Japanese Encephalitis and Dengue Fever Act Now” (齊來把蚊滅 預防日本腦炎登革熱) of the Anti-mosquito Campaign 2018 and other anti-mosquito messages will be promulgated through the following channels- <ul style="list-style-type: none"> <li>(a) television and radio APIs;</li> <li>(b) publicity materials e.g. posters, pamphlets, banners and diaries;</li> <li>(c) FEHD’s homepage and hotline;</li> <li>(d) Facebook page of Keep Clean Ambassador “Ah Tak”;</li> <li>(e) talks on anti-mosquito measures;</li> <li>(f) roving exhibitions; and</li> <li>(g) a broadcasting van.</li> </ul> </li> </ul> <p><b><u>Territory-wide Anti-mosquito Campaign 2018</u></b></p> <ul style="list-style-type: none"> <li>● The territory-wide Anti-mosquito Campaign will be implemented in three phases as follows: <ul style="list-style-type: none"> <li>Phase I: 12 February 2018 – 16 March 2018</li> <li>Phase II: 23 April 2018 – 29 June 2018</li> <li>Phase III: 13 August 2018 – 19 October 2018</li> </ul> </li> <li>● The Campaign aims at – <ul style="list-style-type: none"> <li>(a) heightening public awareness of the potential risk of dengue fever, Zika virus infection, Chikungunya fever, Japanese encephalitis and other mosquito-borne diseases;</li> <li>(b) encouraging community participation and forging close partnership among government departments concerned in anti-mosquito work; and</li> <li>(c) eliminating potential mosquito breeding sites.</li> </ul> </li> </ul> <p><b><u>Territory-wide Thematic Mosquito Prevention and Control Special Operations in 2018</u></b></p> <p>Together with the additional roving teams under the District-led Actions Scheme, the number of roving teams has increased by 7% (from 270 in October 2016 to 289 in October 2017) to strengthen pest control in the season. A total of 47 roving teams have been added during dry season (November 2017 to February 2018) so as to maintain the same number of roving teams as in wet season 2017.</p> <ul style="list-style-type: none"> <li>● <b>March - April 2018:</b> A three-week Thematic Mosquito Prevention and Control Special Operation will be launched between 26 March and 13 April 2018.</li> <li>● <b>July – August 2018:</b> A four-week Thematic Mosquito Prevention and Control Special Operation will be launched between 9 July and 3 August 2018.</li> </ul>

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> <li>• <b>October 2018 – January 2019:</b> A eleven-week Thematic Mosquito Prevention and Control Special Operation will be launched between 29 October 2018 and 11 January 2019. FEHD will keep in view the latest development to decide the emphases/themes of these thematic mosquito prevention and control special operations.</li> </ul>
<b>11. Government Property Agency (GPA)</b>	<ul style="list-style-type: none"> <li>● For property management agents under GPA’s purview, the following anti-mosquito measures will be implemented: <ul style="list-style-type: none"> <li>(a) to put up relevant posters/notices to arouse awareness of occupants/residents and solicit their support to guard against mosquito-transmitted diseases;</li> <li>(b) to conduct daily inspection of areas where water may accumulate, e.g. drain holes, sand traps and gully traps, etc.;</li> <li>(c) to apply larvicide to all drains once a week;</li> <li>(d) to apply larvicide in areas of high risk where necessary;</li> <li>(e) to carry out pest control work in all common areas once or twice a month;</li> <li>(f) to remind nearby construction sites to take anti-mosquito measures;</li> <li>(g) to maintain close contact with FEHD and arrange application of larvicide to nearby areas;</li> <li>(h) to remind officers in joint-user office buildings to prevent accumulation of water in containers for office plants;</li> <li>(i) to seal up keyholes of manhole covers with adhesive tape to prevent water accumulation and breeding of mosquitoes;</li> <li>(j) to put up special posters/notices to arouse the awareness of occupants/residents about Japanese encephalitis and dengue fever; and</li> <li>(k) to implement appropriate measures to prevent the spread of Japanese encephalitis and dengue fever.</li> </ul> </li> <li>☐ When the AOIs recorded by FEHD have reached 15% or higher, respective property management agents will step up the anti-mosquito measures as follows: <ul style="list-style-type: none"> <li>i. to brief their cleansing staff about anti-mosquito measures;</li> <li>ii. to increase the frequency of inspection of potential mosquito breeding sites, e.g. roof;</li> <li>iii. to remove water from roof and open area after rain;</li> <li>iv. to clear drains and surface channels to prevent blockage;</li> </ul> </li> </ul>

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	v. to remove stagnant water; and to fill up any defective ground surface.
<b>12. Highways Department (HyD)</b>	<ul style="list-style-type: none"> <li>● To continue closely monitor Contractors' performance on mosquito prevention and control in HyD's construction sites according to DEVB's enhanced anti-mosquito measures.</li> </ul>
<b>13. Home Affairs Department (HAD)</b>	<ul style="list-style-type: none"> <li>● To assist with the dissemination of anti-mosquito message, for example, by distributing anti-mosquito leaflets and posters and facilitating community talks and exhibitions.</li> <li>● To carry out ad hoc maintenance, such as grass cutting, where necessary along village footpaths and access roads maintained by HAD.</li> <li>● To provide assistance in drawing the attention of owners' corporations of those housing estates/buildings that are undergoing or will shortly undergo repairs/maintenance/renovation to the importance of implementing anti-mosquito measures.</li> </ul>
<b>14. Hospital Authority (HA)</b>	<ul style="list-style-type: none"> <li>● To carry out inspection and strengthen vector prevention and control measures: <ul style="list-style-type: none"> <li>(a) To conduct regular (at least weekly) inspection round with record kept, and more frequent inspection after heavy rain.</li> <li>(b) To apply larvicide oil / sand to drainage and surface channels weekly.</li> <li>(c) To arrange weekly fogging for outdoor green areas, if needed.</li> <li>(d) To arrange regular (at least monthly) pesticide service to all departments and outdoor areas, and additional pest control services if needed.</li> <li>(e) To upkeep environmental hygiene.</li> <li>(f) To remove stagnant water.</li> <li>(g) To check roof gutters and surface drainage channels and remove leaves, debris, mud and gravel.</li> <li>(h) To perform housekeeping in green areas e.g. grass cutting and plant pruning.</li> <li>(i) To ensure works agents to strengthen anti-mosquito measures and eliminate accumulation of stagnant water and construction waste in construction areas.</li> <li>(j) To install mosquito trapping devices and add window mesh or screens at hospital premises as and when required.</li> </ul> </li> </ul>

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	<ul style="list-style-type: none"> <li>● To closely monitor the contractor providing mosquito control services in the premises of hospitals and clinics, through active communication with contractor for treatment service to deal with any problems once identified.</li> <li>● To arouse awareness of staff and visitors of hospitals and clinics of the importance of mosquito prevention, by means of posters, banners, leaflets, e-mail, videos etc.</li> <li>● To maintain close liaison with FEHD for expert advice and for problems near the hospital areas for follow up, attend inter-departmental Anti-mosquito Steering Committee coordinated by FEHD at district level, and where necessary, invite FEHD to conduct site inspection in hospitals.</li> </ul>
<b>15. Housing Department (HD)</b>	<p><b><u>Promotional/Publicity and Educational Programmes</u></b></p> <ul style="list-style-type: none"> <li>● In order to enrich and update the knowledge of HD staff, property service agents and cleansing workers on environmental hygiene and prevention of mosquito breeding in housing estates, a seminar on “Prevention of Mosquito Breeding” will be held in 2018 with support from FEHD and DH.</li> <li>● Tenants will be encouraged continuously to report mosquito breeding black spots through the Housing Authority hotline.</li> <li>● Inspection guidelines and checklists have been provided to frontline management staff and site staff for guidance.</li> <li>● Community education against mosquito breeding will be stepped up through promotional posters, notices and leaflets, estate newsletters, Estate Management Advisory Committee meetings and video segments/messages broadcast on the Housing Channel through the LCD monitor installed at the G/F lift lobbies of public rental housing blocks.</li> <li>● Easy-pull banners will be mounted at public housing estates to promote messages on public hygiene and epidemic prevention such as anti-mosquito and anti-rodent measures, etc.</li> <li>● Posters on prevention of mosquito breeding will be displayed at construction sites prominently.</li> </ul>



### **Enhanced Anti-mosquito Actions**

- Estate management offices have been instructed to mobilise necessary resources and work closely with FEHD for the implementation of the territory-wide Anti-mosquito Campaign 2018.
- Anti-mosquito Special Cleansing Squads will be set up in public housing estates to carry out daily inspection of gullies, surface channels, hill slopes, flower beds, etc. to eliminate accumulation of stagnant water at potential mosquito breeding black spots when the AOI of the areas concerned reaches or exceeds 20%.
- Mosquito catching apparatuses have been placed at strategic points of public housing estates located in areas with relatively high AOI.
- Housing estates within districts with AOI over 10% will be alerted to step up anti-mosquito measures. Those estates within districts with AOI at alert level of 20% or above will be required to put up eye-catching notices at the G/F lift lobby of each estate block to alert tenants and solicit their cooperation and support to step up anti-mosquito measures in the estates.
- Regular inspections in public housing estates will continue to be conducted by HD, in conjunction with FEHD, to monitor the effectiveness of the anti-mosquito measures.
- Overgrown vegetation on flower beds and slopes will be pruned from time to time. Larvicide will be applied to manholes and surface channels. Maintenance work such as clearing of blocked drains and paving of uneven ground will be speeded up.
- New works contractors of HD will be required to remove any stagnant water in their construction sites, apply larvicides where required, cover all water receptacles properly, and keep the sites clean. HD will carry out site inspections weekly.
- Cleansing contractors will also be required to strengthen their efforts in keeping public housing estates and work sites clean.

### **Enforcement Action**

- HD will strengthen enforcement actions under the “Marking Scheme for Estate Management Enforcement in Public Housing Estates” and call for tenants’ cooperation. Five penalty points will be allotted to households for committing the offence of “causing mosquito breeding by accumulating stagnant water” under the Scheme.

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	<ul style="list-style-type: none"> <li>● HD will assess works contractors' performance through a scoring system and take regulatory action against poor performances. For convictions in mosquito breeding cases, we will take disciplinary action against the concerned contractors according to the prevailing listing mechanism.</li> </ul>
<b>16. Lands Department (LandsD)</b>	<ul style="list-style-type: none"> <li>● To enhance regular inspection and, if necessary, carry out clearing of fenced off government sites.</li> <li>● To conduct grass cutting and clear up government land site black spots. To apply larvicidal oil or pesticide as and when necessary and take action to level the uneven ground where stagnant water is easily accumulated.</li> <li>● To clear identified hillside illegal cultivation black spots to eliminate mosquito breeding sites.</li> <li>● To prosecute the offender of illegal cultivation when sufficient evidence is collected.</li> <li>● To strengthen grass cutting and tidy up the fenced off government land sites within 100m radius of the locations having high ovitrap index.</li> <li>● To conduct joint operation with other departments in fighting against mosquito-borne diseases.</li> <li>● To distribute government posters and pamphlets through various district lands offices to educate the general public.</li> <li>● To remind government departments that allocated sites should be kept in a clean and tidy condition and that grass cutting should be performed regularly.</li> <li>● To issue letters to tenants (Short Term Tenancies) and licensees (Government Land Licences) asking for their assistance in mosquito prevention.</li> <li>● To enhance the monitoring of contractors' performance on anti-mosquito measures. Inadequate mosquito preventive measures or finding of mosquito breeding places will be accurately reflected in the contractor's quarterly performance report.</li> </ul>
<b>17. Leisure and Cultural Services Department (LCSD)</b>	<ul style="list-style-type: none"> <li>● To step up inspection and strengthen vector prevention and control measures at LCSD venues</li> <li>● To carry out special anti-mosquito operations and cleansing operations at LCSD venues</li> <li>● To tighten up supervision over contractors' staff in anti-mosquito work</li> <li>● To continue installing mosquito trapping devices at LCSD venues</li> </ul>

<b>Bureau/ Department</b>	<b>Anti-mosquito Plan</b>
	<ul style="list-style-type: none"> <li>● To hold roving exhibitions on mosquito control and prevention of dengue fever at LCSD venues</li> <li>● To display and distribute anti-mosquito publicity materials such as banners, posters and leaflets</li> <li>● To step up enforcement action against littering offenders at LCSD venues</li> <li>● To assist with the dissemination of FEHD's anti-mosquito message to all LCSD district offices for attention, for example, updated news/cases of dengue fever and Japanese Encephalitis for enhancing mosquito control and prevention measures at LCSD venues</li> <li>● To recirculate the relevant anti-mosquito guidelines regularly to all LCSD district offices for compliance</li> </ul>
<b>18. Social Welfare Department (SWD)</b>	<ul style="list-style-type: none"> <li>● To assist in distributing publicity leaflets, booklets and posters issued by FEHD and DH on anti-mosquito information and measures to SWD service units.</li> </ul>
<b>19. Transport Department (TD)</b>	<ul style="list-style-type: none"> <li>● To strengthen the mosquito control and prevention work in venues managed by the TD, weekly inspections continued to be carried out at Driving Test Centres and Vehicle Examination Centres.</li> <li>● To assist in dissemination of information from FEHD and DH on anti-mosquito information and measures to public transport operators.</li> </ul>
<b>20. Water Supplies Department (WSD)</b>	<ul style="list-style-type: none"> <li>● Carry out routine inspection to Waterworks Installations and WSD construction sites as per requirement from DEVB</li> </ul>

**Food and Health Bureau  
December 2017**