

For discussion
on 10 January 2017

LegCo Panel on Food Safety and Environmental Hygiene

**Enhanced mosquito prevention and control
in face of threats from Zika Virus Infection**

Purpose

Effective mosquito control requires sustained efforts of all parties concerned, particularly at a time when we are facing the added threat posed by Zika virus infection. This paper briefs Members on the concerted efforts made by various departments in mosquito prevention and control and the emphasis we place on encouraging cross-sector collaboration and community participation.

Background

(A) Zika Virus Infection

2. Zika virus is transmitted to humans mainly through bites of infected *Aedes* mosquitoes. Though *Aedes aegypti*, which is considered as the principal vector for transmitting Zika virus to humans, is currently not found in Hong Kong, other *Aedes* mosquito species (such as *Aedes albopictus*) widely present locally are also considered as potential vectors. Moreover, transmission of Zika virus by sexual contact has been confirmed, and other modes of transmission (such as blood transfusion and perinatal transmission) are also possible. As long as there is extensive international travel, there always remains the risk of introducing Zika virus or *Aedes aegypti* into Hong Kong. Once a person infected by Zika virus elsewhere enters Hong Kong, person-to-person transmission of the virus is possible. Besides, if the infected person is subsequently bitten by an *Aedes albopictus* in Hong Kong, the infected *Aedes albopictus* may carry the virus and lead to a secondary spread in Hong Kong. It is very common that persons infected by Zika virus will not have any symptoms and there is no medication or vaccine against Zika virus at present. The population of newly affected areas does not generally have any immunity against Zika virus. The public should therefore stay vigilant about the potential risks of mosquito-borne diseases, while the community and various Government

departments should make concerted efforts and actively participate in the mosquito prevention and control work.

3. At an emergency meeting held on 1 February 2016, the World Health Organization (WHO) declared that the recent cluster of microcephaly (Note 1), other neurological disorders and autoimmune complications such as Guillain-Barré syndrome (GBS) (Note 2) and their possible association with Zika virus constituted a Public Health Emergency of International Concern (PHEIC). According to WHO's latest report, 75 countries/areas have documented mosquito transmission of the virus since 2007 while 13 countries/areas have documented person-to-person transmission of the virus, probably by sexual contact, since 2016. Under WHO's classification of countries and territories that have reported Zika virus transmission, Indonesia, Thailand, Malaysia, the Philippines and Vietnam in Southeast Asia are all Category 2 countries with vector-borne Zika virus infections (i.e. countries with possible endemic transmission since 2007 or evidence of local Zika virus infections in 2016). After Singapore reported the first local case of Zika virus infection on 27 August 2016, its number of local cases has continued to increase rapidly.

4. The Government published in the Gazette the Prevention and Control of Disease Ordinance (Amendment of Schedule 1) Notice 2016 on 5 February 2016 to make Zika virus infection a statutorily notifiable infectious disease under the Prevention and Control of Disease Ordinance (Cap. 599) with immediate effect on the same day. The Scientific Committee on Vector-borne Diseases (Scientific Committee) under the Centre for Health Protection (CHP) of the Department of Health (DH) met in February, April and August 2016 to review and recommend the strategy for the prevention and control of Zika virus infection. Measures recommended by the Scientific Committee included vector control and enhanced surveillance, public education, health advice, early diagnosis, preparation and preparedness, as well as risk communication. The Government launched the Preparedness and Response Plan for Zika Virus Infection on 11 March 2016, with the Alert Response Level activated since then (Note 3).

5. In 2016, CHP recorded two imported cases of Zika virus infection on 25 August and 15 November respectively. Upon receiving the notification, CHP immediately carried out epidemiological investigation and issued isolation orders to the two patients concerned. The patients were given the necessary health education information and relevant promotional leaflets before discharge. Moreover, they should continue to apply insect repellent to avoid mosquito bites (for at least 21 days upon coming to Hong Kong from affected areas) and should observe safe sex after discharge. CHP held briefings on the days of receiving the notification to report the investigation and follow-up work

undertaken and issued press releases accordingly. Letters were also issued to doctors and hospitals to alert them to patients with compatible symptoms and travel history. CHP also reported the cases to WHO, the National Health and Family Planning Commission, as well as Guangdong and Macao health authorities, and maintained close liaison with them in monitoring the latest development. A new television Announcement of Public Interest (API) on Zika virus has been broadcast by CHP since 3 November 2016.

6. The Food and Environmental Hygiene Department (FEHD), within 24 hours after receiving the notification, conducted inspections on mosquito problem and implemented mosquito prevention and control measures in the areas within a radius of 500 metres from the residences and workplaces of the two patients, and in the places they visited during the infectious period (including the hospitals where they received isolation treatment). FEHD also liaised with relevant departments and organisations and convened district task force meetings to enhance the anti-mosquito work under their purview. Besides, the *Aedes albopictus* samples collected by FEHD under the following circumstances were tested for Zika virus:

- (a) all samples collected under the dengue vector surveillance programme in port areas and in areas with an Area Ovitrap Index reaching or exceeding 10% during the surveys conducted from August to October 2016; and
- (b) in response to the two imported cases, all samples collected from the dengue vector surveillance areas that fall within a radius of 500 metres from the residences and workplaces of the two patients, and from the places they visited during the infectious period.

The surveillance area with ovitraps for *Aedes albopictus* involved in the second confirmed case is Sheung Shui. As the index of that location for November was zero, no sample was available for testing. The testing results of 268 samples collected so far are negative.

7. WHO issued a statement on 18 November 2016, indicating that Zika virus and associated diseases remained a significant enduring public health challenge requiring positive response although they no longer represented a PHEIC. Nevertheless, the Government made it clear on 19 November 2016 that Zika virus remained a challenge to public health, and Hong Kong would stay vigilant by continuing with the current prevention and control strategy and maintaining the Alert Response Level. DH has also maintained close communication with WHO and health authorities of other places, including Guangdong and Macao, on the surveillance of Zika virus infection and monitors

the latest development elsewhere. It will furnish the public with advice on disease prevention, in the light of the latest prevailing circumstances and evolving scientific evidence. The Government will pursue the strategy for prevention and control of Zika virus infection as recommended by the Scientific Committee, and maintain close liaison with public and private hospitals, medical professions and the community. Respective bureaux/departments and relevant organisations will continue to take preventive and control measures in line with the preparedness plan to ensure that measures on effective disease surveillance, vector control, examination and diagnosis, emergency preparedness, health advice, public education and risk communication are in place. The enhanced efforts in mosquito control and elimination as well as publicity and community engagement activities will also be sustained.

(B) Dengue Fever and Japanese Encephalitis

8. In recent years, the number of dengue fever cases remained high in neighbouring places, including Singapore, Taiwan, Malaysia, Thailand, the Philippines, Vietnam and Laos etc. If dengue fever becomes endemic in Hong Kong, the number of cases may go up significantly. In Hong Kong, *Aedes albopictus* is the principal vector of dengue fever. Although symptoms of first dengue fever infection are usually mild, if the person is infected with other serotypes of dengue viruses in subsequent years of his/her life, it is more likely to result in a serious complication, namely severe dengue. Failing proper treatment, the fatality rate could exceed 20 per cent. At present, there is no registered vaccine for dengue fever in Hong Kong. DH will continue to monitor and keep in view the development of vaccine with proven efficacy in preventing dengue fever. In 2016, CHP recorded four local and 118 imported dengue fever cases in Hong Kong (Note 4).

9. Of the four local cases of dengue fever confirmed in 2016, the patients in the first three cases lived in Central District. Following the announcement of the first confirmed case on 6 August (Saturday), the Secretary for Food and Health (SFH) held a meeting with relevant Government departments on the morning of 8 August (Monday) to discuss measures to strengthen mosquito control work. The Under Secretary for Food and Health visited Central on 8 September to inspect FEHD's mosquito prevention and control work in the district, and appealed to members of the public to carry out preventive measures. Apart from strengthening the anti-mosquito measures within the activity areas of the patients, the Government also conducted comprehensive investigations to ascertain whether the three cases were linked, with a view to endeavouring to curb the possible spread. At a meeting with the Chairmen/Vice-Chairmen/representatives of the environmental hygiene committees of the 18 District Councils on 20 September, SFH gave details of

the Government's efforts to enhance the collaboration of the relevant departments and stakeholders in strengthening mosquito prevention, the active participation of various public and private sectors in the anti-mosquito work and the dissemination of messages to promote anti-mosquito efforts through their stakeholders. Mosquito control measures and publicity would also be strengthened at ports. At the same time, SFH stressed that the Government would step up enforcement actions.

10. Japanese encephalitis occurs mainly in the rural and agricultural areas of Asia and the Western Pacific Region. In Hong Kong, the principal type of mosquito that transmits the disease is *Culex tritaeniorhynchus*. Symptoms usually start at around four to 14 days after being infected. Mild infections may occur without apparent symptoms other than fever with headache. More severe infection is marked by quick onset of headache, high fever, neck stiffness, impaired mental state, coma, tremors, convulsions (especially in children) and paralysis. There is no specific treatment for this disease. Supportive therapy is generally applied by doctors. The case-fatality rate can be as high as 30% among those with symptoms. Of those who survive, 20% to 30% suffer permanent intellectual, behavioural or neurological problems such as paralysis, recurrent seizures or inability to speak. In 2016, CHP recorded two imported Japanese encephalitis cases in Hong Kong (Note 5).

(C) Intensive Mosquito Preventive and Control Exercises in 2016

11. In 2016, relevant bureaux/departments deployed additional resources twice to conduct under their purview intensive mosquito preventive and control exercises across the territory during the following periods. Actions were taken to kill adult mosquitoes, clear stagnant water and conduct grass cutting to eliminate potential mosquito breeding sites with a view to eradicating mosquitoes of a whole generation, including those which might be infected.

- (a) From 18 April to 22 May (gearing up for the upcoming rainy season).
- (b) From 1 August to 31 October (strengthening Hong Kong's guard against the spread of Zika virus infection, especially reducing the risk of imported Zika virus infections in Hong Kong arising from the Olympic and Paralympic Games).

Mosquito Prevention and Control Work in 2017

(A) Vector Surveillance Programme: A review of the situation in 2016 and the enhanced measures to be implemented in 2017

(1) Dengue fever

12. Since 2003, FEHD has put in place an enhanced dengue vector surveillance programme for monitoring the distribution of *Aedes albopictus* in 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.

13. Under the dengue vector surveillance programme, ovitraps are placed by FEHD at selected locations according to the recommendations given by the WHO 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 are recorded under the surveillance programme:

- (a) the Area Ovitrap Index for *Aedes albopictus* (AOI); and
- (b) the Monthly Ovitrap Index for *Aedes albopictus* (MOI).

AOI indicates the extensiveness of the distribution of *Aedes albopictus* 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. Since October 2015, FEHD has enhanced the dengue vector surveillance programme to cover eight more areas. A total of 52 areas in the community are now covered under the surveillance programme.

14. Apart from timely announcing all the indices on FEHD's website and in monthly press releases, 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 or exceeds 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, to alert occupants and management staff to the need to take mosquito preventive and control actions promptly.

15. In response to the four local dengue fever cases reported in 2016, a total of 20 ovitraps will be added to seven locations starting from January 2017 as follows:

<u>Location</u>	<u>No. of Additional Ovitrap</u> s
Tseung Kwan O South	4
Central, Sheung Wan and Sai Ying Pun	3
Pokfulam	5
Hung Hom	2
Wan Chai North	3
Tin Hau	1
Wong Tai Sin Central	2
Total:	20

16. Besides, the surveillance programme has been further enhanced since September 2016 by increasing the frequency of survey from one week per month to two weeks per month for two consecutive months in surveyed areas that fall within 500m radius from locations visited by patients of local dengue fever case/Zika virus infection case during incubation and infectious periods of the disease, as well as areas with AOI reaching or exceeding 20% for two consecutive months.

17. **MOIs:** The MOIs recorded from January to November 2016 were in general lower than those in previous years. A chart showing the trend is at **Annex 1**. The MOIs recorded in the first three months of 2016 were 0%. The MOIs rose from 1.5% in April to 13.5% in June. From July to November, the MOIs steadily declined. The MOI movements in 2016 were in general similar to the pattern in previous years.

18. **AOIs:** Up to November 2016, the highest AOI of 35.0% was recorded in Tseung Kwan O North in June, followed by 31.7% which was also recorded in Tseung Kwan O North in May. The monthly AOIs for all 52 areas of surveillance are provided at **Annex 2**. During the period, 15 areas recorded AOIs exceeding 20% on at least one occasion. In response, FEHD convened district task force meetings and activated the rapid alert system 21 times in total to step up the co-ordination of Government efforts in mosquito control and to mobilise community participation in anti-mosquito efforts.

19. **PMOIs:** Up to November 2016, the ovitrap indices for all six groups in the port areas were below 20%. The highest ovitrap index of 14.5% was recorded in the group of Private Cargoes Working Areas in June (see [Annex 3](#)). The PMOIs ranged from the lowest of 0% (in January to March) to the highest of 3.6% (in May) in 2016. The PMOI movements showed a similar pattern as in previous years. A chart showing the trend is at [Annex 4](#).

20. The dengue vector surveillance in all the 29 land and sea ports have been stepped up from once per month to once every two weeks since November 2015. The port dengue vector surveillance programme has been launched in Tuen Mun Ferry Terminal since February 2016 with surveillance conducted on a biweekly basis (after the terminal re-opened on 28 January 2016). Port dengue vector surveillance at Hong Kong International Airport is conducted on a weekly basis and has been extended to the newly opened Midfield Concourse since March 2016. Tests on dengue virus would be conducted on dengue vectors collected from ovitraps set in all port areas.

(2) Japanese encephalitis

21. The Japanese encephalitis vector surveillance work carried out in Yuen Long, a more risky area, from April to October each year has been further extended to cover strategic locations in Tuen Mun, Sai Kung, North, Sham Shui Po, Southern and Kwai Tsing districts throughout the year since October 2015. Trapping of adult mosquitoes would be conducted in all the selected locations monthly throughout the year for test on Japanese encephalitis virus. A total of 464 mosquito samples were collected and tested against Japanese encephalitis virus during the period from January to November 2016. A sample collected from Tung Fung Au in North District in June was found to contain Japanese encephalitis virus and concerned parties were asked to take mosquito preventive and control measures according to the procedure for handling local reported Japanese encephalitis cases.

(B) Priority tasks for the Anti-mosquito Campaign 2017

22. The Anti-Mosquito Steering Committee (AMSC) is chaired by the Permanent Secretary for Food and Health (Food) and comprises representatives from various Government bureaux and departments. The Committee is responsible for reviewing the effectiveness of measures taken in tackling the mosquito problem, and discussing ways to enhance co-operation to intensify anti-mosquito work.

23. In addition to about 700 departmental staff deployed on pest control (including mosquito control), FEHD engages private contractors to provide pest

control services across the territory through roving teams. As regards the winter season from November 2016 to March 2017, FEHD has increased the number of roving teams by 56 in order to maintain the same number of teams as in summer. Together with the additional roving teams under the District-led Actions Scheme, the number of roving teams this winter will be largely maintained at about 280 (with a workforce of about 1 680) to strengthen mosquito control in the season. Additional funding has been provided to FEHD for sustaining its anti-mosquito work throughout the winters of 2014, 2015 and 2016. In 2016 (up to November), FEHD initiated 43 prosecutions against mosquito breeding in premises under the Public Health and Municipal Services Ordinance (Cap. 132), among which 30 involved construction sites and 13 involved other premises. In addition, its professional staff will closely keep in view the mosquito management approach adopted by other places.

24. FEHD will launch the Anti-mosquito Campaign again in early 2017 in collaboration with relevant Government departments to maintain the momentum on mosquito prevention and control. Bearing the theme “Prevent Japanese encephalitis and Dengue Fever - Act Now!”, the Campaign is scheduled for implementation by phases as follows –

Phase I: 13 February 2017 – 17 March 2017

Phase II: 24 April 2017 – 30 June 2017

Phase III: 14 August 2017 – 20 October 2017

25. FEHD’s pest control staff will step up inspection, preventive and control actions and publicity work during the Campaign. Mosquito breeding sites will be eliminated or treated with larvicides if needed. Potential breeding sites 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.

26. FEHD has installed mosquito screens at the vent pipes of the septic tanks of private village houses since March 2016 as a proactive measure to prevent mosquito breeding in septic tanks. It plans to assess the situation before the rainy season in 2017 to decide if further actions are 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. FEHD will, upon invitation, brief Heung Yee Kuk on the enhanced anti-mosquito work.

27. District Offices and District Councils carry out regular anti-mosquito operations, grass-cutting and cleansing of hygiene blackspots. With the full implementation of the District-led Actions Scheme in 18 districts since 2016, District Offices have, based on their district circumstances, worked closely together with District Councils and relevant departments in launching various initiatives that improve environmental hygiene. Making use of the District-led Actions Scheme funding provided in 2016-17, plus the administrative support given by the Home Affairs Department, District Offices will implement a total of 40 projects relating to environmental hygiene improvement and public area management, including grass-cutting and mosquito control.

28. 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. In September 2016, in addition to the meetings between the Food and Health Bureau and the Airport Authority, the Tourism Commission also took the lead in meeting two cruise terminal operators, members of the cruise industry and representatives from major tourist attractions (including the Ocean Park, Hong Kong Disneyland Resort, Noah's Ark, Ngong Ping 360 and Peak Tram), so as to strengthen mosquito prevention and control for the facilities in these major tourist attractions and areas in their vicinity, and enhance publicity and education for stakeholders. To minimise the risks of importation of infected mosquitoes by aircrafts and infections on flights, DH will launch a new scheme requiring aircraft disinsection on all incoming flights originating from Zika-affected areas before landing in Hong Kong.

29. Works sites, including sites for renovations and repairs of buildings, are risky 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. The Housing Department will advise owners' corporations of estates under the Tenants' Purchase Scheme to include anti-mosquito measures in the terms of management or cleansing contracts, if such measures have not been included. Stakeholders including relevant bureaux/departments as well as their contractors will examine their mosquito prevention and control work in the relevant areas at Kai Tak in the bi-monthly Kai Tak Site Coordination Meeting convened by the Civil Engineering and Development Department. FEHD will, on invitation, continue to conduct briefings on strengthening mosquito prevention and control for the Hong Kong Construction Industry Employees General Union and the Occupational Safety and Health Council. In addition, the Development Bureau

is encouraging, through contractors' associations, 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.

30. 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, Facebook page of Keep Clean Ambassador "Ah Tak", posters, leaflets, APIs, outdoors broadcasting van, VCDs and letters to target groups, to encourage community participation in anti-mosquito activities. We will review and revamp our APIs with a view to impressing the public about the risks of dengue fever, Zika virus infection and other mosquito-borne diseases. 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 the FEHD's website is a "Guidebook on Control and Prevention of Mosquito Breeding" which gives illustrations on potential mosquito breeding places and advice on effective measures to eliminate them.

31. FEHD will invite District Councils to participate in the Campaign and to organise anti-mosquito activities at the district level. Relevant Government departments will play an active role in the Campaign through organising anti-mosquito activities in places under their charge, and taking actions to enlist community support for the Campaign through their networks. We will also strengthen public education and publicity programmes in concert with organisations such as the Pest Control Personnel Association of Hong Kong, stakeholders of the tourism sector, the Hong Kong Construction Association, the Hong Kong Construction Industry Employees General Union, the Occupational Safety and Health Council, school heads associations, the Federations of Parent-Teacher Associations and the owners' corporations, for the purpose of enhancing public understanding of mosquito-borne diseases and the importance of mosquito control work.

32. The Anti-mosquito Plan for 2017 of all relevant Government departments is at **Annex 5**.

Support from the Community

33. We appeal to the community for enhanced efforts to inspect their homes and surroundings to remove potential mosquito breeding sites. Members of the public and estate management bodies are well advised to keep drains free from blockage and fill up all holes to prevent puddles from forming. They should also remove any mosquito eggs to prevent vector proliferation. All local residents, be they in Hong Kong or travelling abroad, should take precautionary measures to prevent infection by vector-borne diseases. They are advised to wear light-coloured, long-sleeved clothes and trousers, use insect repellents over exposed parts of the body when staying outdoors, and use mosquito screens or nets. Travellers returning to Hong Kong should seek medical advice if they have symptoms such as fever, severe headache or muscle and joint pain. They should also inform their doctor of their travel history.

Summary

34. Relevant Government departments are acting in concert to fully implement mosquito prevention and control measures. We encourage relevant sectors and the community to also chip in to help eliminate mosquito breeding. Members are invited to note the content of this paper.

End Notes:

- (1) Microcephaly is an uncommon condition whose causes can be genetic or environmental (related to toxicity, radiation or infection). It is defined as a condition at birth in which the newborn's head circumference is less than expected for age and sex. Microcephaly can present as an isolated condition or may be associated with other symptoms, such as convulsions, developmental delays or feeding difficulties.
- (2) Guillain-Barré syndrome (GBS) is a disorder in which the body's immune system attacks part of the peripheral nervous system. The syndrome can affect the peripheral nerves that control muscle strength as well as those that transmit feelings of pain, temperature and touch. This can result in muscle weakness and loss of sensation in the legs and/or arms, and may severely affect a child's brain development, respiratory functions and self-care ability as well.
- (3) "Preparedness and Response Plan on Zika Virus Infection" aims to ensure that the Government is equipped with the core capacities to prevent, detect, characterize and respond quickly, efficiently and in a coordinated manner to the Zika virus infection threats in order to prevent disastrous complication and unnecessary burden to the society. Under the system there are three response levels - alert, serious and emergency, with each level representing a graded risk of the Zika virus infection affecting Hong Kong and its health impact on the community. In response to the activation of the Alert

Response Level, the departments concerned have stepped up the cleansing work and mosquito prevention and control measures. Examples are as follows:

- (a) The district environmental hygiene offices of FEHD convene monthly anti-mosquito task force meetings with stakeholders including relevant departments to review the mosquito prevention and control work.
- (b) The Lands Department adopts and maintains the reinforced mosquito prevention and control measures as planned. These measures include enhancing the inspection frequency (at least once a week) of Government land sites under their control, promptly conducting necessary cleaning and grass cutting work on Government land sites and enhancing supervision of their site contractors to step up frequency (at least once a week) and intensity of anti-mosquito work.
- (c) The Leisure and Cultural Services Department conducts daily cleaning and inspection at all its venues to reinforce the efforts in clearing stagnant water and debris and ensure that all water containers are covered tightly; conducts weekly specific mosquito control and cleaning operations at the venues; and promotes the message of mosquito prevention and control by displaying posters and banners at its venues, conducting roving exhibitions, broadcasting APIs and distributing leaflets.

(4) Number of DF cases from 2013 to 2015 in Hong Kong is given below:

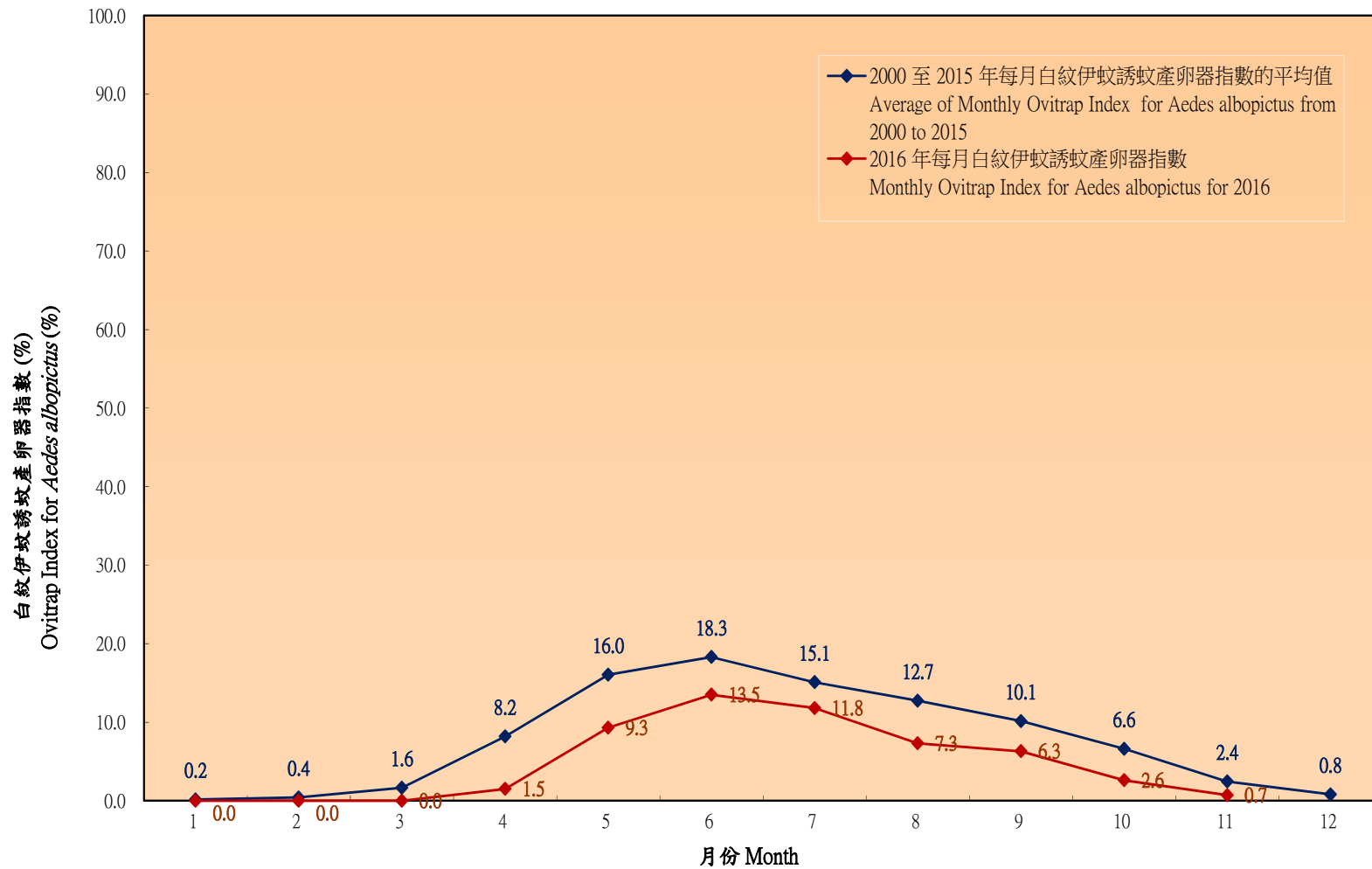
Year	Local DF Cases	Imported DF Cases	Unclassified DF Cases
2013	0	103	0
2014	3	109	0
2015	3	110	1

(5) Number of JE cases from 2013 to 2015 in Hong Kong is given below:

Year	Local JE Cases	Imported JE Cases	Unclassified JE Cases
2013	2	3	1
2014	3	2	0
2015	1	0	1

Food and Health Bureau
Food and Environmental Hygiene Department
January 2017

2000-15 年與 2016 年白紋伊蚊誘蚊產卵器指數比較
Comparison of Monthly Ovitrap Index for *Aedes albopictus* (2000-15 and 2016)



2016 年分佈於 19 個地區的 52 個監察地點的誘蚊產卵器指數

Ovitrap Indices for 52 locations in 19 districts - 2016

	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	11月 Nov	12月 Dec
港島及離島 (Hong Kong & Islands)	柴灣西 (Chai Wan West)	0.0%	0.0%	0.0%	0.0%	3.7%	5.3%	5.4%	5.4%	7.1%	0.0%	0.0%	
	天后 (Tin Hau)	0.0%	0.0%	0.0%	0.0%	13.7%	20.8%	26.9%	7.3%	7.5%	7.8%	1.9%	
	筲箕灣和西灣河 (Shau Kei Wan & Sai Wan Ho)	0.0%	0.0%	0.0%	0.0%	0.0%	25.9%	6.8%	3.5%	5.0%	1.8%	0.0%	
	北角 (North Point)	0.0%	0.0%	0.0%	0.0%	3.6%	9.1%	18.2%	5.5%	1.9%	0.0%	0.0%	
	灣仔北 (Wan Chai North)	0.0%	0.0%	0.0%	0.0%	0.0%	7.5%	5.7%	2.0%	0.0%	1.0%	1.9%	
	跑馬地 Happy Valley	0.0%	0.0%	0.0%	1.8%	7.0%	19.6%	14.0%	8.8%	7.3%	7.0%	1.8%	
	中環、上環和西營盤 (Central, Sheung Wan & Sai Ying Pun)	0.0%	0.0%	0.0%	0.0%	7.7%	9.4%	9.7%	9.2%	12.4%	0.0%	1.6%	
	西環 (Sheung Wan)	0.0%	0.0%	0.0%	0.0%	9.1%	13.0%	7.4%	5.7%	4.5%	1.9%	0.0%	
	香港仔和鴨脷洲 (Aberdeen & Ap Lei Chau)	0.0%	0.0%	0.0%	3.8%	12.2%	17.0%	5.5%	3.7%	9.3%	2.0%	0.0%	
	薄扶林 (Pokfulam)	0.0%	0.0%	0.0%	2.2%	14.0%	15.7%	15.1%	11.8%	23.1%	2.9%	0.0%	
	深水灣和淺水灣 (Deep Water Bay & Repulse Bay)	0.0%	0.0%	0.0%	5.5%	3.7%	21.8%	22.2%	3.8%	9.3%	0.0%	0.0%	
	長洲 (Cheung Chau)	0.0%	0.0%	0.0%	0.0%	11.4%	8.8%	5.6%	2.8%	8.8%	8.6%	0.0%	
	東涌 (Tung Chung)	0.0%	0.0%	0.0%	8.1%	18.4%	15.8%	10.5%	18.4%	5.3%	2.7%	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	11月 Nov	12月 Dec
九龍 (Kowloon)	尖沙咀 (Tsim Sha Tsui)	0.0%	0.0%	0.0%	0.0%	14.8%	7.0%	18.2%	1.7%	5.4%	7.3%	1.8%	
	尖沙咀東 (Tsim Sha Tsui East)	0.0%	0.0%	0.0%	0.0%	3.7%	11.3%	20.4%	3.7%	4.0%	7.5%	0.0%	
	旺角 (Mong Kok)	0.0%	0.0%	0.0%	0.0%	0.0%	5.3%	7.0%	1.8%	1.8%	0.0%	3.5%	
	荔枝角 (Lai Chi Kok)	0.0%	0.0%	0.0%	2.0%	8.0%	9.4%	5.6%	11.3%	2.0%	0.0%	0.0%	
	深水埗東 (Sham Shui Po East)	0.0%	0.0%	0.0%	2.0%	9.3%	15.1%	5.6%	5.8%	1.9%	0.0%	0.0%	
	長沙灣 (Cheung Sha Wan)	0.0%	0.0%	0.0%	1.9%	7.4%	9.3%	14.8%	14.8%	7.3%	1.8%	0.0%	
	九龍城北 (Kowloon City North)	0.0%	0.0%	0.0%	1.8%	5.5%	1.8%	9.1%	11.1%	9.2%	1.9%	0.0%	
	紅磡 (Hung Hom)	0.0%	0.0%	0.0%	0.0%	0.0%	4.2%	3.8%	3.8%	2.0%	2.0%	1.0%	
	何文田 (Ho Man Tin)	0.0%	0.0%	0.0%	0.0%	1.9%	9.4%	14.8%	7.4%	5.7%	0.0%	0.0%	
	樂富西 (Lok Fu West)	0.0%	0.0%	0.0%	1.7%	8.3%	16.7%	18.0%	5.2%	1.7%	3.3%	0.8%	
	啟德北 (Kai Tak North)	0.0%	0.0%	0.0%	0.0%	2.7%	13.2%	23.7%	2.6%	23.7%	5.4%	2.7%	
	黃大仙中 (Wong Tai Sin Central)	0.0%	0.0%	0.0%	1.6%	11.1%	16.1%	9.5%	4.8%	4.9%	2.4%	0.0%	
	鑽石山 (Diamond Hill)	0.0%	0.0%	0.0%	0.0%	8.0%	7.7%	2.0%	5.8%	1.9%	3.8%	0.0%	
	牛池灣 (Ngau Chi Wan)	0.0%	0.0%	0.0%	1.9%	16.7%	18.5%	20.0%	3.6%	1.8%	3.7%	0.0%	
	觀塘中 (Kwun Tong Central)	0.0%	0.0%	0.0%	9.8%	16.9%	22.6%	14.5%	22.4%	3.4%	11.1%	0.0%	
藍田 (Lam Tin)	0.0%	0.0%	0.0%	3.7%	7.3%	12.7%	14.5%	9.1%	3.6%	5.5%	0.0%		
九龍灣 (Kowloon Bay)	0.0%	0.0%	0.0%	1.9%	13.8%	19.6%	17.9%	16.4%	5.3%	7.1%	3.5%		
新界東 (New Territories East)	將軍澳南 (Tseung Kwan O South) (前稱: 將軍澳) (Formerly :Tseung Kwan O)	0.0%	0.0%	0.0%	3.5%	20.7%	15.5%	5.0%	15.3%	8.3%	5.3%	0.0%	

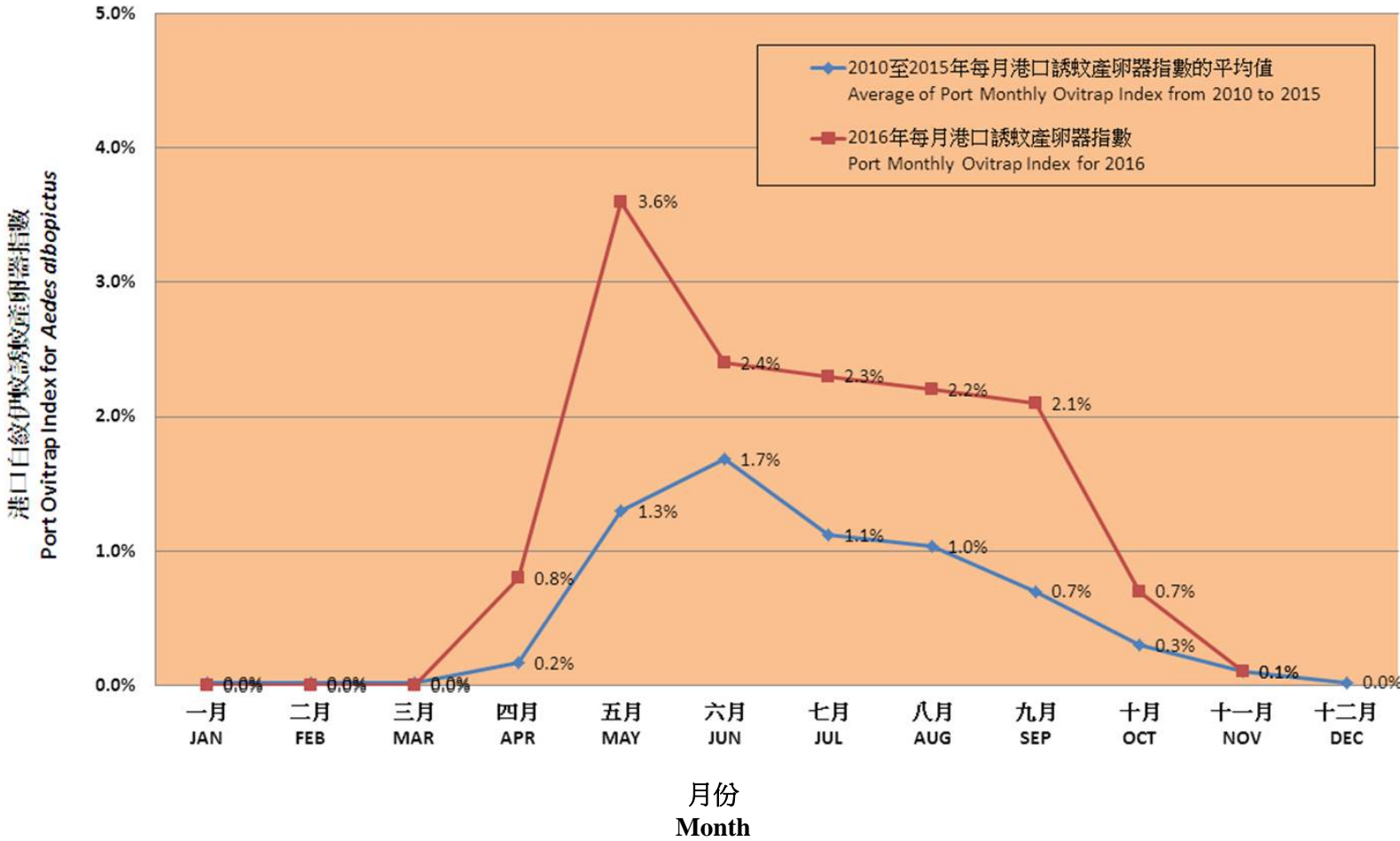
	監察地點 Locations	1月 Jan	2月 Feb	3月 Mar	4月 Apr	5月 May	6月 Jun	7月 Jul	8月 Aug	9月 Sep	10月 Oct	11月 Nov	12月 Dec
	將軍澳北 (Tseung Kwan O North)	0.0%	0.0%	0.0%	6.7%	31.7%	35.0%	5.2%	12.1%	3.6%	3.7%	1.8%	
	西貢市 (Sai Kung Town)	0.0%	0.0%	0.0%	0.0%	6.3%	8.2%	0.0%	8.3%	8.5%	0.0%	0.0%	
	馬鞍山 (Ma On Shan)	0.0%	0.0%	0.0%	0.0%	8.5%	11.9%	11.7%	3.3%	5.0%	5.1%	1.7%	
	圓洲角 (Yuen Chau Kok)	0.0%	0.0%	0.0%	1.8%	13.8%	22.4%	26.3%	7.3%	5.6%	3.4%	0.0%	
	大圍 (Tai Wai)	0.0%	0.0%	0.0%	0.0%	8.9%	5.6%	19.6%	7.4%	1.8%	3.7%	3.6%	
	大埔 (Tai Po)	0.0%	0.0%	0.0%	0.0%	9.8%	7.4%	18.5%	7.5%	12.7%	0.0%	0.0%	
	粉嶺 (Fanling)	0.0%	0.0%	0.0%	0.0%	5.6%	17.0%	13.2%	5.8%	1.9%	1.9%	0.0%	
	上水 (Sheung Shui)	0.0%	0.0%	0.0%	0.0%	9.4%	7.3%	7.3%	5.7%	7.5%	1.9%	0.0%	
新界西 (New Territories West)	天水圍 (Tin Shui Wai)	0.0%	0.0%	0.0%	0.0%	1.8%	10.9%	5.6%	10.7%	12.3%	0.0%	0.0%	
	元崗 (Yuen Kong)	0.0%	0.0%	0.0%	4.0%	28.0%	4.0%	12.0%	0.0%	4.0%	0.0%	0.0%	
	元朗市 (Yuen Long Twon)	0.0%	0.0%	0.0%	0.0%	7.5%	3.7%	1.8%	5.6%	5.6%	0.0%	0.0%	
	屯門南 (Tuen Mun South)	0.0%	0.0%	0.0%	0.0%	7.4%	1.9%	14.8%	5.5%	1.8%	3.6%	0.0%	
	屯門北 (Tuen Mun North)	0.0%	0.0%	0.0%	0.0%	13.8%	16.9%	27.4%	6.3%	8.1%	0.0%	1.6%	
	掃管笏 (So Kwun Wat)	0.0%	0.0%	0.0%	0.0%	13.0%	9.1%	7.3%	1.8%	1.9%	0.0%	0.0%	
	荃灣市 (Tsuen Wan Town)	0.0%	0.0%	0.0%	0.0%	5.7%	26.8%	8.8%	3.6%	8.6%	1.8%	1.8%	
	馬灣 (Ma Wan)	0.0%	0.0%	0.0%	0.0%	0.0%	4.0%	4.2%	0.0%	4.3%	0.0%	0.0%	
	上葵涌 (Sheung Kwai Chung)	0.0%	0.0%	0.0%	0.0%	13.5%	15.4%	11.5%	5.8%	11.5%	0.0%	0.0%	
	葵涌 (Kwai Chung)	0.0%	0.0%	0.0%	0.0%	7.3%	16.4%	11.1%	9.3%	5.7%	0.0%	0.0%	
	荔景 (Lai King)	0.0%	0.0%	0.0%	0.0%	7.4%	9.1%	5.6%	9.1%	9.4%	0.0%	0.0%	
	青衣南 (Tsing Yi South) (前稱: 青衣)	0.0%	0.0%	0.0%	7.0%	12.3%	17.9%	10.7%	11.5%	7.5%	5.7%	1.8%	

	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	11月 Nov	12月 Dec
	(Formerly : Tsing Yi)												
	青衣北 (Tsing Yi North)	0.0%	0.0%	0.0%	5.5%	12.7%	27.8%	7.4%	9.3%	9.1%	1.9%	0.0%	
	每月白紋伊蚊誘蚊產卵器指數 <i>Monthly Ovitrap Index for Aedes albopictus</i>	0.0%	0.0%	0.0%	1.5%	9.3%	13.5%	11.8%	7.3%	6.3%	2.6%	0.7%	

2016年港口地區誘蚊產卵器的監察結果
Result of Ovitrap Surveillance in Port Areas in 2016

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	11月 Nov	12月 Dec
香港國際機場 Hong Kong International Airport	0.0%	0.0%	0.0%	0.9%	2.4%	1.0%	1.4%	1.4%	1.3%	0.3%	0.0%	--
陸路邊境口岸 Cross Boundary Check Points on Land	0.0%	0.0%	0.0%	1.2%	11.9%	5.0%	2.1%	5.3%	3.3%	0.6%	0.0%	--
私人貨物裝卸區 Private Cargoes Working Areas	0.0%	0.0%	0.0%	0.0%	10.1%	14.5%	11.3%	7.5%	8.8%	2.5%	0.6%	--
出入境碼頭 Cross Boundary Ferry Piers	0.0%	0.0%	0.0%	0.0%	0.8%	2.1%	1.7%	0.9%	1.3%	0.4%	0.0%	--
貨櫃碼頭 Container Terminals	0.0%	0.0%	0.0%	0.0%	0.3%	0.0%	2.2%	0.0%	0.6%	0.0%	0.0%	--
公共貨物裝卸區 Public Cargoes Working Areas	0.0%	0.0%	0.0%	0.0%	9.3%	9.2%	10.5%	7.9%	10.9%	4.2%	1.7%	--
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%	0.8%	3.6%	2.4%	2.3%	2.2%	2.1%	0.7%	0.1%	--

2010至2015年與2016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*: 2010-2015 and 2016



Anti-mosquito Plan for 2017

Bureau/ Department	Anti-mosquito Plan
Agriculture Fisheries, and Conservation Department (AFCD)	<p><u>Fish Farms and Fishermen</u></p> <ul style="list-style-type: none"> • To distribute anti-mosquito advisory leaflets to mariculturists at AFCD's licence renewal service counters, during regular farm inspections, and through the representatives in the Mariculturists Liaison and Support Group of the Red Tide Reporting Network. • To issue publicity letters together with anti-mosquito leaflets to fishermen associations. <p><u>Local Livestock Farms</u></p> <ul style="list-style-type: none"> • To issue advisory letters and publicity leaflets to livestock farmers and livestock associations to raise their awareness of anti-mosquito measures. • To inspect livestock farms for any potential mosquito breeding sites and remind farmers to take proper anti-mosquito measures during routine farm inspections. <p><u>Government Wholesale Food Markets</u></p> <ul style="list-style-type: none"> • 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. • 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. • In addition to regular larvicide application, to arrange special application of larvicide upon receipt of pest problem reports from market users. • To carry out special operations to keep the markets clean and to eliminate potential mosquito breeding sites in their vicinity. <p><u>Cheung Sha Wan Wholesale Vegetable Market under Vegetable Marketing Organisation (VMO)</u></p> <ul style="list-style-type: none"> • 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. • To maintain close contact with FEHD to eliminate potential mosquito breeding sites in areas adjacent to the VMO market premises.

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> • To conduct “Market Clean-up Days” as promotional activities on market cleanliness and anti-mosquito measures on a biweekly basis. <p><u>Wholesale Fish Markets under Fish Marketing Organisation (FMO)</u></p> <ul style="list-style-type: none"> • 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. <p><u>Country Parks</u></p> <ul style="list-style-type: none"> • 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 uneven ground surfaces that can accumulate stagnant 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. <p><u>Mai Po Nature Reserve and Hong Kong Wetland Park</u></p> <ul style="list-style-type: none"> • 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 Wildlife Fund 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. • To distribute anti-mosquito leaflets to visitors. • 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, boats, visitor facilities and gei wai bund areas in MPNR and HKWP.
Development Bureau (DEVB)	<ul style="list-style-type: none"> • The high-level Interdepartmental Working Group on Mosquito Prevention at Works Sites will continue to closely monitor the situations of public works sites.

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> • To continue to liaise with FEHD to ensure that effective anti-mosquito measures are undertaken by public works contractors.
Department of Health (DH)	<p><u>Publicity activities on mosquito-borne diseases</u></p> <ul style="list-style-type: none"> • Publicity and health education activities on prevention of mosquito-borne diseases will be continued in 2017: <ol style="list-style-type: none"> (a) to liaise with the Information Services Department to coordinate the broadcast of relevant television and radio APIs and video clips; (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); (c) to arrange media interviews and publication of feature articles on mosquito-borne diseases in magazines and newspapers; (d) to provide updated relevant information on CHP's website and through the DH's 24-hour Health Education Hotline; to send email alerts to relevant stakeholders informing them of the latest development and the preventive measures, and solicit their coordination and support to strengthen publicity activities; (e) to establish hyperlinks on the websites of DH and other relevant organisations; (f) to enhance publicity in spring and summer through the Summer Programme 2017 by distributing related printed materials on health education to various places including health sectors, schools, public and private housing estates, and facilities managed by Leisure and Cultural Services Department and non-governmental organisations; and (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. • Adopting preventive measures at boundary control points (BCPs) and providing health advice to travellers: <ol style="list-style-type: none"> (a) to continue monitoring 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; (b) to continue distributing leaflets and displaying posters on anti-mosquito measures at all BCPs; (c) to continue uploading updated health messages and outbreak

Bureau/ Department	Anti-mosquito Plan
	<p>news onto the DH's Travel Health Service website;</p> <p>(d) to continue holding health talks/providing advice for travel agents/tour guides through the Travel Industry Council of Hong Kong; and</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> <ul style="list-style-type: none"> • Other measures: <ul style="list-style-type: none"> (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.; (b) to disseminate information 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; (c) to convene Interdepartmental Coordination Committee on Mosquito-borne Diseases (ICC) meetings with relevant bureaux/departments to enhance the implementation of anti-mosquito measures, environmental hygiene, public health education and dissemination of health advice on prevention of mosquito-borne diseases and their complications; (d) to participate in meetings of the Anti-Mosquito Steering Committee chaired by the Permanent Secretary for Food and Health (Food); and (e) to maintain close communication with the World Health Organization (WHO) and health authorities of other places, including Guangdong and Macau, to monitor the latest development of Zika virus infection.
Education Bureau (EDB)	<ul style="list-style-type: none"> • EDB will collaborate with FEHD to organise a seminar on dengue fever and other mosquito-transmitted diseases for school personnel in July 2017. 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. • 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. • Emails will be sent to schools to remind them to strengthen

Bureau/ Department	Anti-mosquito Plan
	<p>anti-mosquito measures, and draw their attention to the news that some schools were fined for failing to implement adequate anti-mosquito measures last year.</p>
<p>Food and Environmental Hygiene Department (FEHD)</p>	<ul style="list-style-type: none"> • In 2016 (up to November), FEHD instigated 43 prosecutions for mosquito breeding in premises pursuant to the Public Health and Municipal Services Ordinance (Cap. 132), among which 30 involved construction sites and 13 involved other premises. FEHD will continue to take enforcement actions against persons in breach of the Ordinance. • FEHD will continue to assist HD in taking enforcement action against households of premises in which mosquito breeding is found. • FEHD will continue to convene district anti-mosquito task force meetings with the government departments/parties concerned and provide necessary advice and assistance to them in formulating mosquito prevention strategies when situation warrants, such as when the Alert Response Level under the Government’s Preparedness and Response Plan for Zika virus infection has been activated or when the Area Ovitrap Index has reached or exceeded 20%. • All FEHD District Environmental Hygiene Offices convened special anti-mosquito task force meetings in March 2016 before the start of the rainy season to enhance relevant government departments’ awareness of the importance of mosquito control in venues under their management, and encourage their active participation in the mosquito control work. • 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 as a proactive measure to prevent mosquito breeding in septic tanks. It plans to assess the situation before the rainy season in 2017 in order to decide if further actions are necessary. • With effect from January 2016, two more ovitraps have been set up in the surveyed area of Ma On Shan to cover Tai Shui Hang and four more ovitraps have been added in the surveyed area of Kwun Tong to cover Sau Mau Ping. Tai Shui Hang and Sau Mau Ping were visited by the patients of local dengue fever cases in 2015. • Since October 2015, FEHD has enhanced the dengue vector surveillance programme with the addition of eight new surveyed areas, namely Tin Hau, Tsim Sha Tsui East, Lok Fu West, Kai Tak North, Ngau Chi Wan, Kowloon Bay, Tseung

Bureau/ Department	Anti-mosquito Plan
	<p>Kwan O North and Tsing Yi North. The Tseung Kwan O area was renamed as “Tseung Kwan O South” and the Tsing Yi area was renamed as “Tsing Yi South”. A total of 52 areas in the territory are covered by the surveillance programme.</p> <ul style="list-style-type: none"> • 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 parts of their premises. • Tests on dengue virus will be conducted on dengue vectors collected in areas where AOIs have reached/exceeded 10%. • Starting from September 2016, the survey frequency for dengue vector surveillance areas that fall within 500 m radius from locations visited by patients of local dengue fever and Zika virus infection cases, as well as areas with 2 consecutive AOIs reaching or exceeding 20%, will be increased from once a month to twice a month for 2 consecutive months. • 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. • The dengue vector surveillance in all the 29 land and sea ports have been stepped up from monthly to biweekly since November 2015. • The port dengue vector surveillance programme was launched in Tuen Mun Ferry Terminal in February 2016 (after the terminal re-opened on 28 January 2016), and surveillance will be conducted on a biweekly basis. • Port dengue vector surveillance at the Hong Kong International Airport on a weekly basis was extended to the newly opened Midfield Concourse in March 2016. • Tests on dengue virus will be conducted on dengue vectors collected from ovitraps set up in all port areas. • 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. • The Inter-departmental Working Group on Pest Prevention and

Bureau/ Department	Anti-mosquito Plan
	<p>Control Meeting was convened in September 2016 to take stock of the mosquito prevention and control measures taken by the relevant departments. FEHD will continue to work closely with the relevant departments and review their mosquito prevention and control work on a quarterly basis.</p> <ul style="list-style-type: none"> • 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"> (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. (b) Through the Joint Utilities Policy Group meetings held among utilities companies. (c) Through the Ad Hoc Inter-departmental Working Group on Mosquito Prevention at Work Sites meetings held among works departments. (d) Through seminars conducted for the Heung Yee Kuk with residents in rural areas as the target group. • FEHD will continue to work with the Occupational Safety and Health Council and the Labour Department to prepare two sets of guidelines on mosquito control for workers and supervisors respectively. • FEHD will work with the Consumer Council on relevant pest control subjects such as application of insect repellents. • FEHD will work closely with the Port Health Office of DH on disinfection of aircrafts to prevent the importation of dengue fever and Zika virus infected vector mosquitoes into Hong Kong by aircrafts. • 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. <p><u>Publicity and Education Activities in 2017</u></p> <ul style="list-style-type: none"> • Radio and TV APIs will be broadcast throughout the year. • The 2017 diary on anti-mosquito measures will be uploaded to FEHD's website. • 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. • Anti-mosquito exhibitions will be staged at the Health Education Exhibition and Resource Centre.

Bureau/ Department	Anti-mosquito Plan
	<ul style="list-style-type: none"> • 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 2017 and other anti-mosquito messages will be promulgated through the following channels- <ul style="list-style-type: none"> (a) television and radio APIs; (b) publicity materials e.g. posters, pamphlets, banners and diaries; (c) FEHD’s homepage and hotline; (d) Facebook page of Keep Clean Ambassador “Ah Tak”; (e) talks on anti-mosquito measures; (f) roving exhibitions; and (g) a broadcasting van. <p><u>Territory-wide Anti-mosquito Campaign 2017</u></p> <ul style="list-style-type: none"> • The territory-wide Anti-mosquito Campaign will be implemented in three phases as follows: <ul style="list-style-type: none"> Phase I: 13 February 2017 – 17 March 2017 Phase II: 24 April 2017 – 30 June 2017 Phase III: 14 August 2017 – 20 October 2017 • The Campaign aims at – <ul style="list-style-type: none"> (a) heightening public awareness of the potential risk of dengue fever, Zika virus infection, Chikungunya fever, Japanese encephalitis and other mosquito-borne diseases; (b) encouraging community participation and forging close partnership among government departments concerned in anti-mosquito work; and (c) eliminating potential mosquito breeding sites. <p><u>Territory-wide Thematic Mosquito Prevention and Control Special Operations in 2017</u></p> <p>The number of roving teams will be increased to 276 from 266, i.e. the level for 2016 summer, in order to strengthen mosquito control work during the winter season.</p> <ul style="list-style-type: none"> • March - April 2017: A three-week Thematic Mosquito Prevention and Control Special Operation will be launched between 27 March and 13 April 2017. • July – August 2017: A four-week Thematic Mosquito Prevention and Control Special Operation will be launched between 10 July and 4 August 2017. • October 2017 – January 2018: A twelve-week Thematic Mosquito Prevention and Control Special Operation will be launched between 30 October 2017 and 19 January 2018. FEHD will keep in view the latest development to decide the emphases/themes of these thematic mosquito prevention and

Bureau/ Department	Anti-mosquito Plan
	control special operations.
Government Property Agency (GPA)	<ul style="list-style-type: none"> • For property management agents under GPA’s purview, the following anti-mosquito measures will be implemented: <ul style="list-style-type: none"> (a) to put up relevant posters/notices to arouse awareness of occupants/residents and solicit their support to guard against mosquito-transmitted diseases; (b) to conduct daily inspection of areas where water may accumulate, e.g. drain holes, sand traps and gully traps, etc.; (c) to apply larvicide to all drains once a week; (d) to apply larvicide in areas of high risk where necessary; (e) to carry out pest control work in all common areas once or twice a month; (f) to remind nearby construction sites to take anti-mosquito measures; (g) to maintain close contact with FEHD and arrange application of larvicide to nearby areas; (h) to remind officers in joint-user office buildings to prevent accumulation of water in containers for office plants; (i) to seal up keyholes of manhole covers with adhesive tape to prevent water accumulation and breeding of mosquitoes; (j) to put up special posters/notices to arouse the awareness of occupants/residents about Japanese encephalitis and dengue fever; and (k) to implement appropriate measures to prevent the spread of Japanese encephalitis and dengue fever. • When the AOIs recorded by FEHD have risen to the alert level, respective property management agents will step up the anti-mosquito measures as follows: <ul style="list-style-type: none"> (a) to brief their cleansing staff about anti-mosquito measures; (b) to increase the frequency of inspection of potential mosquito breeding sites, e.g. roof; (c) to remove water from roof and open area after rain; (d) to clear drains and surface channels to prevent blockage; (e) to remove stagnant water; and (f) to fill up any defective ground surface.
Home Affairs Department (HAD)	<ul style="list-style-type: none"> • To assist with the dissemination of anti-mosquito message, for example, by distributing anti-mosquito leaflets and posters and facilitating community talks and exhibitions. • To carry out ad hoc maintenance, such as grass cutting, where necessary along village footpaths and access roads maintained by HAD. • To provide assistance in drawing the attention of owners’

Bureau/ Department	Anti-mosquito Plan
	<p>corporations of those housing estates/buildings that are undergoing or will shortly undergo repairs/maintenance/renovation to the importance of implementing anti-mosquito measures.</p>
<p>Housing Department (HD)</p>	<p><u>Promotional/Publicity and Educational Programmes</u></p> <ul style="list-style-type: none"> • 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 2017 with support from FEHD and DH. • Tenants will be encouraged continuously to report mosquito breeding black spots through the Housing Authority hotline. • Inspection guidelines and checklists have been provided to frontline management staff for guidance. • 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. • 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. <p><u>Enhanced Anti-mosquito Actions</u></p> <ul style="list-style-type: none"> • 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 2017. • 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

Bureau/ Department	Anti-mosquito Plan
	<p>each estate block to alert tenants and solicit their cooperation and support to step up anti-mosquito measures in the estates.</p> <ul style="list-style-type: none"> • 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. • All building contractors of HD will be demanded to clear up any stagnant water in their construction sites and keep the sites clean. Cleansing contractors will also be required to strengthen their efforts in keeping public housing estates and work sites clean. • HD will check with the owners' corporations serving estates under the Tenants' Purchase Scheme whether anti-mosquito measures have been included in the terms of management or cleansing contracts. If not, HD will advise them to do so. <p><u>Enforcement Action</u></p> <ul style="list-style-type: none"> • 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.
Lands Department (LandsD)	<ul style="list-style-type: none"> • To enhance regular inspection and, if necessary, carry out clearing of fenced off government sites. • 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. • To clear identified hillside illegal cultivation black spots to eliminate mosquito breeding sites. • To prosecute the offender of illegal cultivation when sufficient evidence is collected. • To strengthen grass cutting and tidy up the fenced off government land sites within 100m radius of the locations having high ovitrap index. • To conduct joint operation with other departments in fighting against mosquito-borne diseases. • To distribute government posters and pamphlets through

Bureau/ Department	Anti-mosquito Plan
	<p>various district lands offices to educate the general public.</p> <ul style="list-style-type: none"> • To remind government departments that allocated sites should be kept in a clean and tidy condition and that grass cutting should be performed regularly. • To issue letters to tenants (Short Term Tenancies) and licensees (Government Land Licences) asking for their assistance in mosquito prevention. • 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.
<p>Leisure and Cultural Services Department (LCSD)</p>	<ul style="list-style-type: none"> • To step up inspection and strengthen vector prevention and control measures at LCSD venues. • To carry out special anti-mosquito operations and cleansing operations at LCSD venues. • To tighten up supervision over contractors' staff in anti-mosquito work. • To continue installing mosquito trapping devices at LCSD venues. • To hold roving exhibitions on mosquito control and prevention of dengue fever at LCSD venues. • To display and distribute anti-mosquito publicity materials such as banners, posters and leaflets. • To step up enforcement action against littering offenders at LCSD venues.

**Food and Health Bureau
January 2017**