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**Meeting of the Panel on Food Safety and Environmental Hygiene
on 8 April 2008**

Background Brief prepared by Legislative Council Secretariat

Mosquito control work

Purpose

This paper provides a summary of discussions relating to the Administration's mosquito control work held by the Panel on Food Safety and Environmental Hygiene (the Panel) since 2003.

Background

2. Some species of mosquitoes are capable of transmitting disease, such as dengue fever, Japanese Encephalitis (JE), malaria and yellow fever, and they pose threat to human health.

3. Dengue fever is a severe viral illness transmitted by the bite of infective mosquitoes. The particular kind of mosquito, i.e. *Aedes albopictus*, which is a vector of dengue fever, is prevalent in Hong Kong. Since 1994, dengue fever has been made a statutorily notifiable disease in Hong Kong. According to the Administration, the number of notifications ranged from three to 49 cases a year between 1994 and mid 2004, and most were imported cases. There were 31 imported dengue fever cases reported in 2005, and was the same as that reported in 2004. So far, there has not been any fatal case.

4. Since 2000, the Food and Environmental Hygiene Department (FEHD) has put in place a dengue vector surveillance programme to monitor the distribution of *Aedes albopictus* at selected locations, evaluate the effectiveness of mosquito prevention and provide surveillance information for making timely adjustments to the mosquito control strategies and measures. The programme was enhanced in 2003 by extending the coverage from 34 to 38 locations, and the frequency of survey was also increased from once every four months to a monthly basis. The programme was further extended in 2004 to cover all major port areas.

5. JE is a notifiable disease in Hong Kong. The vector of JE disease is the *Culex* mosquito which can be found in various places in the territory. Between 1992 and 2005, a total of 13 sporadic cases were reported in Hong Kong, comprising one local case in 1996, one imported case in 1997, one imported case in 2001, two imported cases in 2002, one local case in 2003, five local cases in 2004, and two cases (one local, one imported) in 2005.

6. The Administration introduced the Public Health and Municipal Services (Amendment) Bill 2005 into the Legislative Council (LegCo) on 4 May 2005. The Public Health and Municipal Services (Amendment) Ordinance 2006 was passed by the LegCo on 3 May 2006 and gazetted on 11 May 2006. Under the Amendment Ordinance 2006, the Authority (i.e. the Director of Food and Environmental Hygiene) is empowered to issue notices to persons "responsible for the premises" requiring them to do certain acts for preventing the breeding of mosquitoes. The expression "the person responsible for the premises" is defined to include the occupier, the owner, the person responsible for the management of the premises, or the appointed contractor of a building site. The Authority is also given the power to, when there is mosquito-related health hazard, take necessary action for preventing the breeding of mosquitoes without notice,. Where such hazard is attributable to any act, default or sufferance of any person, the Authority may recover from the person any costs incurred by the Authority in the taking of such action.

Discussions by the Panel

Dengue fever and vector surveillance programme

7. On 24 June 2003, the Administration reported the findings of ovitrap surveys to the Panel. While the Area Ovitrap indices (AOIs) in May 2003 were generally lower than those in previous years, 15 surveyed areas were found to have AOIs over 20%, of which four were over 30%. Members urged the Administration to deploy sufficient staff for anti-mosquito work, particularly at mosquito blackspots.

8. The Administration advised that it had activated the cross-departmental response mechanism to contain the rise in vectorial extensiveness and had conducted special operations in these areas. Measures were also taken to inspect and remove potential mosquito breeding sites throughout the territory. Moreover, the Administration stepped up its publicity programmes to increase public awareness of the need to control mosquito breeding, and encourage community participation in anti-mosquito activities.

9. At the Panel meetings on 3 March and 29 June 2004, 1 February 2005 and 14 February 2006, the Administration briefed the Panel on its anti-mosquito campaigns and dengue fever surveillance programmes. As the ovitrap indices in May 2004 (31.6%) had exceeded the average of the past four years (26.8%), the Anti-Mosquito Steering Committee (AMSC) endorsed a three-pronged strategy in order to contain the risk of dengue fever to the

community. The three-pronged strategy included intensified preventive and enforcement actions, strengthened surveillance scheme and publicity programmes.

10. On preventive measures, FEHD would activate the district inter-departmental anti-mosquito response mechanism once AOI reached 20%, instead of 30% in the past. On publicity, a new Announcement in the Public Interest on mosquito preventive measures would be produced immediately following torrential or prolonged rains. AMSC also decided to establish District Anti-mosquito Task Force under the Home Affairs Department in all 18 districts and establish an "Anti-mosquito Support Scheme" with an initial funding of \$10 million for the year 2004-2005 to support the 18 District Task Forces in launching their anti-mosquito programmes.

11. While the Panel generally welcomed the Administration's proposed measures in combating mosquito problems, they expressed concern about the difficulties faced by the relevant departments in carrying out anti-mosquito operations on private land or premises. Members stressed that prompt action should be taken to eliminate potential mosquito breeding places, especially in the following areas -

- (a) vacant government land;
- (b) hillsides and illegal cultivation sites;
- (c) private farmland and septic tanks of village houses;
- (d) rear lanes and private streets; and
- (e) construction sites.

12. Members expressed support for the proposed legislative amendments. With the Panel's support, the Administration introduced the Public Health and Municipal Services (Amendment) Bill 2005 into LegCo on 4 May 2005 to strengthen the effectiveness of prevention of mosquito breeding (see paragraph 6 above).

Incident of suspected tampering of ovitraps

13. In the light of wide public concern over the incident of suspected tampering of ovitraps, the Panel held a special meeting on 6 October 2006 to discuss with the Administration the ovitrap tampering case and the measures to avoid its recurrence. Members expressed concern that public confidence in FEHD's anti-mosquito work had been undermined by the ovitrap tampering case.

14. The Administration stressed that the ovitrap tempering incident was the first complaint received by FEHD, and its management had acted upon the complaint within a week. The Administration explained to the Panel that it would take into account numerous factors in drawing up anti-mosquito plans. These indicators included the ovitrap index, information made available by

health authorities of nearby cities or countries and the World Health Organization, the number of imported and local mosquito-borne disease cases, the number of mosquito complaints received and feedback from District Councils and local personalities. Ovitrap index was only one of the tools to monitor the breeding of dengue vectors and reflect the effectiveness of the dengue vector preventive work carried out by FEHD and other government departments concerned. Anti-mosquito operations were an on-going exercise carried out throughout the year irrespective of the level of ovitrap indices.

15. The Administration further explained that FEHD had analyzed the control actions and ancillary efforts taken by FEHD in the five locations where AOIs were about and over 10% from May to July 2006 and had fallen to zero in subsequent months, namely, Lai Chi Kok, Yuen Kong, Yuen Long Town, Ma Wan and Tsing Yi. It was concluded that the concerted efforts made by FEHD and other government departments had contributed to the improved situation. FEHD had increased the number of contractor's workers to carry out anti-mosquito operation from about 900 workers in 2003 to 1 600 in 2006.

16. Members also expressed concern over the effectiveness of the monitoring mechanism over anti-mosquito work. Mr WONG Kwok-hing considered that, to avoid conflict of roles in administration and monitoring of anti-mosquito work, it would be more appropriate for another department to monitor independently FEHD's performance in this aspect.

17. The Administration explained that FEHD had monitored closely the performance of the pest control contractor in taking anti-mosquito action. From May 2005 to 31 March 2006, FEHD had issued 284 notices to the contractor in connection with substandard performance which involved a fine of about \$2,300 for each notice. During the period, FEHD had also issued 104 warning letters and over 1 000 verbal warnings to the contractor. Apart from considering ways and means to improve the security and the design of the ovitrap devices, FEHD had reminded district pest control staff that they should review and take a closer look at localities where there was an abrupt fall of the level of AOI to see whether the sudden fall commensurated with control actions taken.

18. Mr Andrew CHENG commented that the ovitrap tampering case had reflected the problem of sloppiness and lack of professionalism among some FEHD staff. He considered that FEHD management should enhance its monitoring mechanism over the performance of its staff with a view to improving their working attitude and professionalism.

19. The Administration advised that a team dedicated for quality assurance had been set up in FEHD to ensure compliance with relevant guidelines in carrying out inspections and taking enforcement actions by FEHD staff. FEHD management had instructed the quality assurance team to look into the suspected ovitrap tampering case, and disciplinary actions would be taken against the staff concerned if necessary.

JE vector surveillance

20. There were reported cases of JE in Guangdong and Hong Kong in 2003 and 2004. At the Panel meetings on 24 June 2003 and 29 June 2004, some members asked about the risk of JE outbreaks in Hong Kong and the measures to control the breeding of *Culex* mosquitoes, vector of JE. The Administration advised that the existing ovitraps would not be effective in monitoring the distribution of *Culex* mosquitoes, and other surveillance methods had to be used. The Administration also advised that the Agriculture, Fisheries and Conservation Department (AFCD) conducted regular inspections to pig farms to monitor their hygiene conditions including mosquito problems. If infestation problems were found at pig farms and the owners failed to take actions to rectify the situation, AFCD staff would inform FEHD to take prosecution actions.

21. Dr LO Wing-lok suggested that, to prevent JE outbreaks in Hong Kong, the Administration should monitor closely the situation of local pig farms and impose a mandatory requirement on farm owners to vaccinate the pigs against the disease. Mr WONG Yung-kan also suggested that AFCD should strengthen publicity to remind pig farm operators to take necessary measures to prevent JE outbreaks.

22. On 14 February 2006, members were informed of the results of a territory-wide JE vector survey, conducted by FEHD between October 2004 and October 2005, to map out the vector distribution and detect the presence of JE virus in local mosquito population. The survey results revealed that adults and/or larvae *Culex tritaeniorhynchus* were commonly found throughout the territory, including both rural and urban areas. Other potential vectors of JE were not detected in the survey. Amongst the 180 batches of adult *Culex tritaeniorhynchus* sent for laboratory tests, only five batches were found positive for the JE virus. The five batches of samples were all collected in Yuen Long, where pig farms and migratory birds, which were known hosts of the disease, were commonly found. The survey concluded that no parts of Hong Kong were considered to be high risk areas for the transmission of JE.

23. Mr TAM Yiu-chung considered that, given that five batches found positive for JE virus were collected in Yuen Long, the Administration should monitor the health conditions of Yuen Long residents and step up anti-mosquito publicity targeted at Yuen Long residents. The Administration advised that FEHD had stepped up the anti-mosquito actions in areas where *Culex tritaeniorhynchus* were found. AFCD had also stepped up surveillance of pig farms.

Relevant documents

24. A list of relevant documents and questions raised at Council meetings is given in the **Appendix** for members' easy reference. The relevant documents and Council questions are available on the Council's website at <http://www.legco.gov.hk/english/index.htm>.

Latest development

25. The Administration will brief the Panel on 8 April 2008 on its Anti-Mosquito Campaign 2008.

Council Business Division 2
Legislative Council Secretariat
3 April 2008

Appendix

Relevant Documents/Council Questions

<u>Meeting</u>	<u>Meeting Date</u>	<u>Documents/Council Questions</u>
Legislative Council	14 May 2003	Oral question on "Prevention of dengue fever outbreak" raised by Hon LAU Kong-wah
	5 November 2003	Oral question on "Dengue fever" raised by Hon WONG Yung-kan
	7 July 2004	Written question on "Diseases spread by mosquitoes" raised by Hon David CHU Yu-lin
	27 April 2005	Written question on "Procurement of mosquito traps" raised by Hon CHOY So-yuk
	26 October 2005	Written question on "Mosquito infestation in the Hong Kong Disneyland" raised by Hon CHOY So-yuk
	21 June 2006	Written question on "Measure to tackle the mosquito problem" raised by Ir Dr Hon Ho Chung-tai
	18 October 2006	Written question on "Placement of ovitrap for mosquito surveillance" raised by Hon James TO Kun-sun
	24 October 2007	Written question on "Prosecutions instituted in relation to the breeding of mosquitoes found on government and private lands" raised by Hon Albert CHAN Wai-yip
Panel on Food Safety and Environmental Hygiene	25 February 2003	Administration's paper [LC Paper No. CB(2) 1261/02-03(04)] Minutes of meeting [LC Paper No. CB(2) 1513/02-03]

	24 June 2003	Administration's paper [LC Paper No. CB(2) 2559/02-03(03)] Minutes of meeting [LC Paper No. CB(2) 3016/02-03]
	3 March 2004	Administration's paper [LC Paper No. CB(2) 1382/03-04(03)] Minutes of meeting [LC Paper No. CB(2) 2069/03-04]
	29 June 2004	Administration's paper [LC Paper No. CB(2) 2930/03-04(03)] Minutes of meeting [LC Paper No. CB(2) 3270/03-04]
	13 July 2004	Administration's paper [LC Paper No. CB(2) 3073/03-04(01)] Minutes of meeting [LC Paper No. CB(2) 3271/03-04]
	1 February 2005	Administration's paper [LC Paper No. CB(2) 759/04-05(06)] Background Brief prepared by LegCo Secretariat [LC Paper No. CB(2) 362/04-05(06)] Minutes of meeting [LC Paper No. CB(2) 974/04-05]
	14 February 2006	Administration's paper [LC Paper No. CB(2) 1069/05-06(03)] Minutes of meeting [LC Paper No. CB(2) 1548/05-06]
	6 October 2006 (special meeting)	Administration's paper [LC Paper No. CB(2) 3153/05-06(01)] Minutes of meeting [LC Paper No. CB(2) 742/06-07]