

**For discussion
on 14 February 2006**

LegCo Panel on Food Safety and Environmental Hygiene

Anti-mosquito Campaign 2006

Purpose

This paper reports the findings of the dengue vector surveillance programme and the Anti-mosquito Campaign in 2005, results of the Japan encephalitis (JE) vector survey and updates Members on the implementation plan of the 2006 Anti-mosquito Campaign.

Background

2. The Food and Environmental Hygiene Department (FEHD) takes the stewardship in organizing territory-wide anti-mosquito campaign annually to heighten public awareness of the potential risk of mosquito-borne diseases, notably dengue fever and JE and to forge partnership of the community and government departments concerned in anti-mosquito work.

Findings of the Dengue Vector Surveillance Programme in 2005

3. Since 2000, FEHD has put in place in the community a dengue vector surveillance programme to monitor the distribution of *Aedes albopictus* at selected locations and provide surveillance information for making timely adjustments to our 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. Under the surveillance programme, two different indices, namely, Area Ovitrap Index (AOI) and Monthly Ovitrap Index (MOI) are recorded. AOI indicates the extensiveness of the

distribution of Aedine mosquitoes in the surveyed area while the MOI is the average of all AOIs of the same month, which reflects the distribution and activity of *Aedes albopictus* in the whole territory. The AOIs are uploaded to the Geographic Information Hub of the Lands Department where relevant government departments can acquire the latest value of the ovitrap index recorded and take appropriate mosquito control actions accordingly. The indices are also announced each month through FEHD's website and press release to arouse public awareness of the situation of mosquito breeding in respective districts and to enlist community participation in mosquito control work. As port areas are important strategic locations vulnerable to the introduction of dengue virus from neighbouring areas, the programme was further enhanced in 2004. A Monthly Port Ovitrap Index (MPOI) is enumerated to indicate the overall situation of mosquito breeding in 30 port areas.

4. The MOIs recorded for the year of 2005 and the average in the past five years are shown in **Appendix 1**. With concerted efforts of various government departments and the public at large, the MOIs in 2005 were kept at a very low level throughout the year. In fact, the MOIs for 2005 were the lowest since the survey was launched in 2000. The MOI reached the highest of 13.2% in June, which was much lower than the highest average (28.6%) in the past five years. The highest AOI (**Appendix 2**) was 39.2% which was obtained in June 2005 at Tai Po North.

5. The Port Monthly Ovitrap Index (PMOI)¹ throughout 2005 was not high (**Appendix 3**). The highest POI of 8.3% was recorded in Railway Cargoes Handling Area in the months of May and June, which gradually decreased to 0% in November. The POIs of Cross Boundary Ferry Piers remained at zero throughout the whole year.

¹ The Port Monthly Ovitrap Index (PMOI) is enumerated to indicate the overall situation of mosquito breeding in the seven groups of port areas, namely, Airport, Public Cargo Working Areas, Private Cargo Handling Areas, Cross Boundary Ferry Piers, Cross Boundary Check Points on Land, Container Terminals and Rail Cargo Handling Area.

Anti-mosquito Campaign 2005

6. The Anti-mosquito Campaign for 2005 aimed to heighten public awareness on the potential risk of dengue fever and JE, encourage community participation and forge close partnership of government departments concerned, and eliminate breeding sites for the vector mosquitoes. During the Campaign, anti-mosquito messages, particularly JE and dengue fever vector prevention and control, were promulgated through different channels to the public, and the community was encouraged to participate. District pest control staff of FEHD organized working programmes to inspect target areas and black spots and eliminated and treated breeding or potential breeding places identified. In 2005, about 580,000 inspections were made by FEHD staff, over 52,000 mosquito breeding places were eliminated. The effectiveness of the Campaign was well reflected by the low AOIs readings of 2005.

JE Vector Survey

7. Between October 2004 and October 2005, FEHD conducted a territory-wide JE vector survey to map out the vector distribution and detect the presence of JE virus in local mosquito population. The 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. Despite the wide availability of *Culex tritaeniorhynchus*, the detection of JE virus is not common. 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 are known hosts of the disease, were commonly found. FEHD has stepped up the anti-mosquito actions in areas where *Culex tritaeniorhynchus* was found. The survey concludes that no parts of Hong Kong are considered to be high risk areas for the transmission of JE.

8. With increasing awareness of the local population on the risk of dengue fever and concerted anti-mosquito actions of all parties, there were 31 imported dengue fever cases reported in 2005, which was the same as the figure reported in 2004. No local dengue fever case was reported. The number of JE cases reduced from five local cases in 2004 to two cases (one local, one imported) in 2005.

Anti-mosquito Campaign 2006

9. To heighten public awareness and encourage community participation, the Anti-mosquito Campaign 2006 will be implemented in three phases under the banner of "Beware of JE and Dengue Fever. Act Now!" as follows:

Phase 1: from 27 February 2006 to 25 March 2006, lasting for a period of four weeks

Phase 2: from 24 April 2006 to 30 June 2006, lasting for a period of ten weeks

Phase 3: from 14 August 2006 to 7 October 2006, lasting for a period of eight weeks

10. Control measures and publicity efforts will be stepped up in the whole territory during the campaign period, supplementing the regular inspection and enforcement works carried out by district pest control staff. All identified breeding places and potential breeding places for the vector mosquitoes will be treated. Black spots identified by district pest control staff will also be covered while routine work is maintained. Special attention will be paid to areas in close proximity to human residence, schools, construction sites, public housing estates, hospitals, illegal cultivation sites, waterfront public and private cargo working areas, boundary control points, typhoon shelters and piers.

11. Anti-mosquito messages will be promulgated through different channels including Announcement of Public Interests on radio and television, VCD, exhibitions, talks, and publicity materials e.g. posters, leaflets, banners,

etc. Relevant government departments, namely the Education and Manpower Bureau, Architectural Services Department, Agriculture, Fisheries and Conservation Department, Correctional Services Department, Environmental Protection Department, Department of Health, Home Affairs Department, Housing Department, Highways Department, Immigration Department, Labour Department, Lands Department, Leisure and Cultural Services Department, Marine Department, Social Welfare Department and Water Services Department will also play an active role in the campaign through eliminating mosquito problems in places under their charge and soliciting community support for the campaign through their networks. District Councils will also be invited to participate in the Campaign and large-scale thematic operations.

Advice Sought

12. Members are invited to note and comment on -
 - (a) the findings of the dengue vector surveillance programme in 2005 (paragraphs 3 – 5);
 - (b) the results of Anti-mosquito Campaign 2005 (paragraph 6);
 - (c) the findings of JE vector survey (paragraph 7); and
 - (d) the Anti-mosquito Campaign 2006 (paragraphs 9 to 11).

Health, Welfare and Food Bureau
Food and Environmental Hygiene Department
February 2006

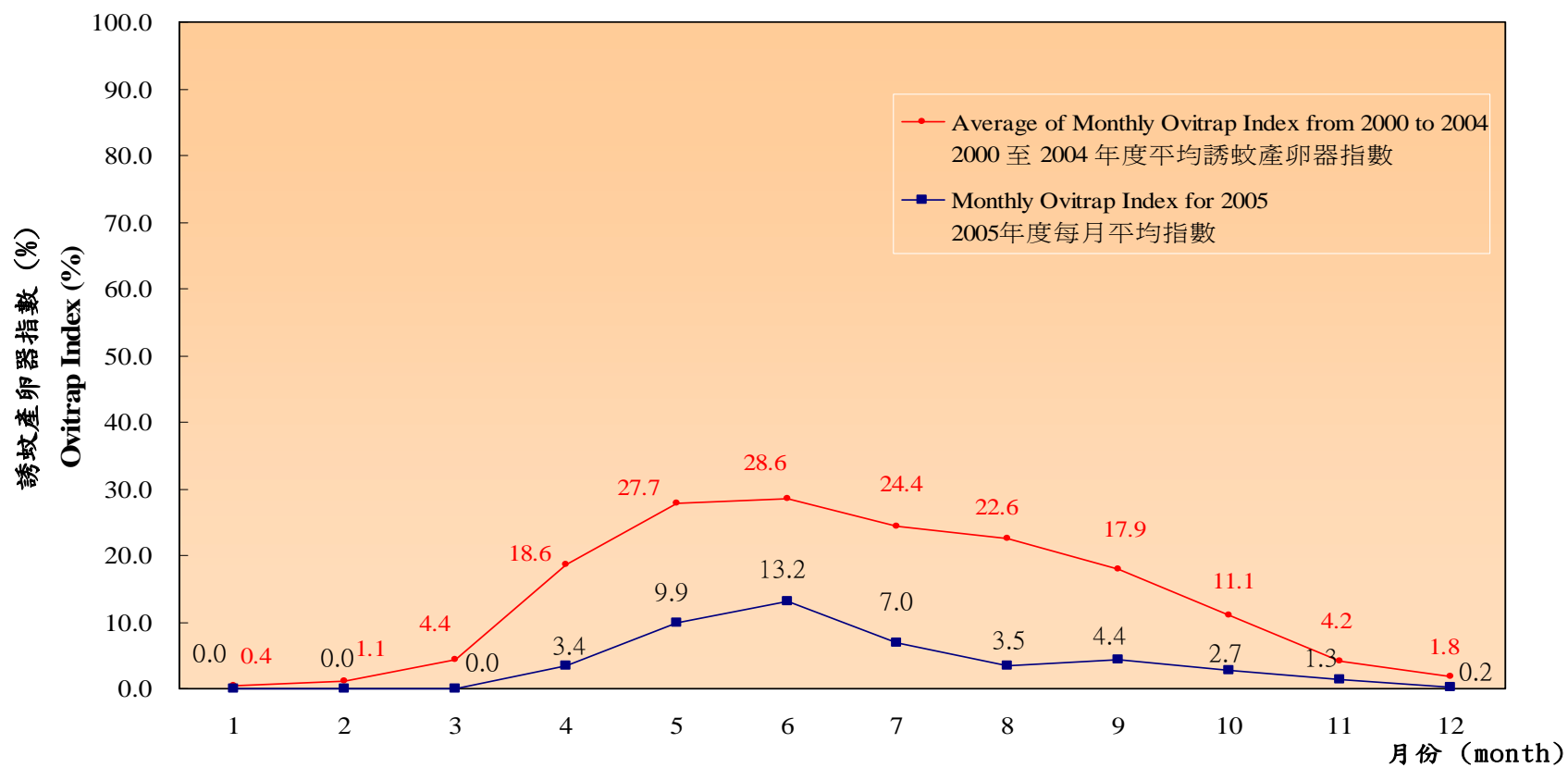
Community Ovitrap Index - 2005

Appendix 1

| | Locations | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec |
|--|--------------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|------------|------------|------------|
| Hong Kong Island & Outlying Islands | Chai Wan West | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 4.0% | 9.6% | 0.0% | 2.0% | 0.0% | 0.0% | 0.0% |
| | Wan Chai North | 0.0% | 0.0% | 0.0% | 0.0% | 9.8% | 16.0% | 9.8% | 8.7% | 10.2% | 8.9% | 2.0% | 0.0% |
| | Happy Valley | 0.0% | 0.0% | 0.0% | 0.0% | 5.6% | 5.5% | 3.6% | 5.5% | 1.9% | 1.9% | 0.0% | 0.0% |
| | Sheung Wan | 0.0% | 0.0% | 0.0% | 0.0% | 26.0% | 32.1% | 3.9% | 1.9% | 4.3% | 0.0% | 0.0% | 0.0% |
| | Kennedy Town | 0.0% | 0.0% | 0.0% | 0.0% | 19.2% | 26.9% | 2.0% | 0.0% | 3.8% | 1.9% | 0.0% | 0.0% |
| | North Point | 0.0% | 0.0% | 0.0% | 1.9% | 1.9% | 3.8% | 6.1% | 2.0% | 2.0% | 2.2% | 0.0% | 0.0% |
| | Aberdeen and Ap Lei Chau | 0.0% | 0.0% | 0.0% | 6.7% | 16.0% | 2.1% | 3.8% | 0.0% | 1.9% | 0.0% | 0.0% | 0.0% |
| | Pokfulam | 0.0% | 0.0% | 0.0% | 22.6% | 3.8% | 3.6% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| | Cheung Chau | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 2.8% | 5.6% | 5.7% | 3.0% | 0.0% | 0.0% | 0.0% |
| | Tung Chung | 0.0% | 0.0% | 0.0% | 6.3% | 20.0% | 8.8% | 5.9% | 2.8% | 22.9% | 0.0% | 2.8% | 0.0% |
| Kowloon | Tsim Sha Tsui | 0.0% | 0.0% | 0.0% | 0.0% | 9.4% | 8.0% | 3.9% | 1.9% | 2.1% | 1.9% | 0.0% | 0.0% |
| | Yau Ma Tei | 0.0% | 0.0% | 0.0% | 0.0% | 17.3% | 10.0% | 27.1% | 12.0% | 7.8% | 9.3% | 4.1% | 1.9% |
| | Lai Chi Kok | 0.0% | 0.0% | 0.0% | 0.0% | 3.8% | 3.8% | 1.8% | 0.0% | 3.7% | 0.0% | 0.0% | 0.0% |
| | Sham Shui Po (East) | 0.0% | 0.0% | 0.0% | 1.9% | 13.0% | 24.5% | 21.2% | 2.0% | 11.5% | 4.3% | 4.9% | 0.0% |
| | Cheung Sha Wan | 0.0% | 0.0% | 0.0% | 3.8% | 16.3% | 19.6% | 13.2% | 12.3% | 0.0% | 6.0% | 2.2% | 0.0% |
| | Kowloon City North | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.7% | 3.8% | 0.0% | 0.0% | 2.0% | 0.0% | 0.0% |
| | Ho Man Tin | 0.0% | 0.0% | 0.0% | 0.0% | 7.7% | 17.3% | 6.1% | 6.1% | 1.9% | 0.0% | 2.3% | 0.0% |
| | Wong Tai Sin Central | 0.0% | 0.0% | 0.0% | 8.1% | 28.8% | 13.6% | 5.2% | 5.1% | 11.7% | 5.2% | 3.4% | 0.0% |
| | Diamond Hill | 0.0% | 0.0% | 0.0% | 2.2% | 12.8% | 19.1% | 10.2% | 14.0% | 6.4% | 8.3% | 4.3% | 0.0% |
| | Kwun Tong Central | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 14.3% | 9.8% | 3.5% | 0.0% | 5.4% | 2.1% | 0.0% |
| | Lam Tin | 0.0% | 0.0% | 0.0% | 3.8% | 21.2% | 3.8% | 11.1% | 2.0% | 1.9% | 2.0% | 0.0% | 0.0% |

| | | | | | | | | | | | | | |
|------------------------------------|----------------|-------------|-------------|-------------|-------------|-------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|
| New Territories East | Tseung Kwan O | 0.0% | 0.0% | 0.0% | 1.7% | 1.7% | 1.8% | 3.3% | 1.7% | 5.1% | 0.0% | 0.0% | 0.0% |
| | Ma On Shan | 0.0% | 0.0% | 0.0% | 0.0% | 17.0% | 3.8% | 0.0% | 1.9% | 5.6% | 0.0% | 0.0% | 0.0% |
| | Lek Yuen | 0.0% | 0.0% | 0.0% | 1.9% | 3.8% | 0.0% | 0.0% | 0.0% | 0.0% | 1.9% | 0.0% | 0.0% |
| | Tai Wai | 0.0% | 0.0% | 0.0% | 19.2% | 28.8% | 7.7% | 4.1% | 9.8% | 7.5% | 0.0% | 1.9% | 0.0% |
| | Tai Po North | 0.0% | 0.0% | 0.0% | 9.8% | 4.0% | 39.2% | 19.2% | 3.7% | 3.9% | 6.5% | 4.3% | 2.0% |
| | Fanling | 0.0% | 0.0% | 0.0% | 11.3% | 17.3% | 38.9% | 16.4% | 3.7% | 9.6% | 13.7% | 1.9% | 0.0% |
| | Sheung Shui | 0.0% | 0.0% | 0.0% | 5.6% | 3.8% | 26.4% | 3.6% | 0.0% | 1.9% | 0.0% | 0.0% | 0.0% |
| New Territories West | Tin Shui Wai | 0.0% | 0.0% | 0.0% | 8.9% | 6.1% | 9.6% | 10.2% | 6.0% | 3.7% | 0.0% | 0.0% | 0.0% |
| | Yuen Kong | 0.0% | 0.0% | 0.0% | 0.0% | 8.0% | 30.4% | 8.0% | 4.3% | 0.0% | 0.0% | 4.2% | 0.0% |
| | Yuen Long Town | 0.0% | 0.0% | 0.0% | 10.0% | 2.0% | 26.5% | 0.0% | 4.2% | 2.0% | 0.0% | 0.0% | 0.0% |
| | Tuen Mun (S) | 0.0% | 0.0% | 0.0% | 0.0% | 11.1% | 13.5% | 13.7% | 0.0% | 1.9% | 2.0% | 0.0% | 0.0% |
| | Tuen Mun (N) | 0.0% | 0.0% | 0.0% | 0.0% | 5.8% | 0.0% | 1.9% | 3.7% | 3.8% | 0.0% | 0.0% | 0.0% |
| | Tsuen Wan Town | 0.0% | 0.0% | 0.0% | 0.0% | 5.2% | 1.7% | 1.7% | 1.8% | 3.6% | 1.9% | 0.0% | 0.0% |
| | Ma Wan | 0.0% | 0.0% | 0.0% | 0.0% | 17.4% | 12.0% | 8.3% | 0.0% | 4.0% | 4.5% | 0.0% | 0.0% |
| | Kwai Chung | 0.0% | 0.0% | 0.0% | 0.0% | 10.0% | 13.7% | 10.4% | 4.3% | 6.1% | 7.0% | 2.3% | 4.0% |
| | Lai King | 0.0% | 0.0% | 0.0% | 1.9% | 5.9% | 30.2% | 3.6% | 1.9% | 7.5% | 2.0% | 3.8% | 0.0% |
| | Tsing Yi | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 10.5% | 7.0% | 0.0% | 3.5% | 1.8% | 3.6% | 0.0% |
| Monthly Ovitrap Index (MOI) | | 0.0% | 0.0% | 0.0% | 3.4% | 9.9% | 13.2% | 7.0% | 3.5% | 4.4% | 2.7% | 1.3% | 0.2% |

2000-04年與2005年白紋伊蚊誘蚊產卵器指數比較
 Comparison of Average Monthly Ovitrap Index (2000-04 and 2005)



Port Ovitrap Index 2005

| Location | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Hong Kong International Airport | 0.1% | 0.0% | 0.0% | 0.3% | 2.7% | 3.5% | 1.9% | 1.7% | 2.2% | 2.0% | 0.7% | 0.1% |
| Railway Cargoes handling areas | 0.0% | 0.0% | 0.0% | 0.0% | 8.3% | 8.3% | 3.3% | 3.3% | 1.7% | 3.3% | 0.0% | 0.0% |
| Cross Boundary Check Points on Land | 0.0% | 0.0% | 0.0% | 0.0% | 6.3% | 7.5% | 6.3% | 2.5% | 1.3% | 2.5% | 0.0% | 0.0% |
| Cross Boundary Ferry Piers | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| Container Terminals | 0.0% | 0.0% | 0.0% | 0.0% | 0.6% | 0.6% | 0.6% | 0.0% | 0.0% | 0.0% | 0.6% | 0.0% |
| Public Cargoes Working Areas | 0.0% | 0.0% | 0.0% | 0.0% | 1.9% | 1.9% | 1.9% | 1.9% | 1.3% | 0.0% | 0.0% | 0.0% |
| Private Cargoes Working Areas | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 3.8% | 1.7% | 0.0% | 1.7% | 0.0% | 0.0% | 0.0% |
| PMOI | 0.1% | 0.0% | 0.0% | 0.2% | 2.5% | 3.2% | 2.0% | 1.4% | 1.5% | 1.3% | 0.4% | 0.1% |