For information
on 24 June 2003

LegCo Panel on Food Safety and Environmental Hygiene

Findings of and Government Responses to Recent Surveys on Prevention of Dengue Fever

Purpose

At the meeting held on 25 February 2003, Members were briefed on the 2003 Anti-mosquito Campaign and an enhanced vector surveillance programme implemented by the Food and Environmental Hygiene Department (FEHD). This paper informs Members of the findings of ovitrap surveys conducted from January to May 2003 and a telephone survey on prevention of dengue fever commissioned by the Department of Health (DH), as well as the Government responses to these surveys.

Enhanced Dengue Vector Surveillance

Findings

2. The enhanced dengue vector surveillance programme was launched in January in 2003 to monitor the distribution of the Aedes albopictus at selected areas, evaluate the effectiveness of mosquito prevention and control work carried out by FEHD and other concerned departments, and provide surveillance information to effect necessary changes in mosquito control strategies and measures.

3. 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 a surveyed area while the MOI is the average of all AOIs within the same month, which reflects the territory-wide situation of Aedes albopictus. The indices are categorized into 4 different levels and announced each month through FEHD's website and press releases.

4. **Appendix 1** shows all the MOIs and AOIs recorded from January to May 2003. It can be seen that the MOI surged from 1.4% in March to 17.1% in May. This is consistent with the seasonal pattern observed in the last three years. The figure for this May is much lower than that recorded last May (34.2%) and the three-year average obtained from 2000 to 2002 (30%) (see **Appendix 2**). 15 surveyed areas were found to have AOIs over 20% in May, of which four were over 30%. They were Chai Wan West, Wong Tai Sin Central, Fanling and Lo Wu.

Government Responses

5. We have expeditiously activated the cross-departmental response mechanism to contain the apparent rise in vectorial extensiveness in certain localities. FEHD and relevant departments have promptly mounted special control operations in the surrounding areas of Aedes-positive ovitraps. Intensive on-the-spot inspections have been conducted, followed by elimination of breeding sources and application of larvicides to potential breeding grounds that were non-removable. For those localities with serious infestation problems, FEHD has carried out extensive larval and adult control actions including fogging. All these special operations will continue until the ovitrap surveys concerned have shown negative results.

6. On top of the locality-specific control operations, departments concerned have intensified mosquito control measures in public places, sites and venues under their purview throughout the territory. The wide-ranging measures include inspection for larval habitats, clearance of solid waste, removal or covering of containers, leveling of depressions, application of insecticides and larvicides, and installation of mosquito traps. A summary of the enhanced mosquito control measures being taken by various bureaux and departments is in **Appendix 3**.

Further Study

7. In addition to the on-going ovitrap surveys at ground level, FEHD will launch in late June a pilot ovitrap study covering about 75 residential blocks throughout the territory. Ovitraps will be placed inside around 860 flats at different floor levels of the blocks. The

findings of this pilot study will shed light on the size of the problem in high-rise residential buildings and enable the Administration to formulate the appropriate remedial measures. The study will also indicate whether *Aedes aegypti*, the most important vector for transmitting dengue fever worldwide that prefers to breed in indoor containers, has been introduced into Hong Kong.

Telephone Survey on Prevention of Dengue Fever

8. In December 2002, DH commissioned a territory-wide telephone questionnaire survey. It aimed to gauge public awareness of dengue fever and its preventive measures; the Government's anti-dengue fever campaign and the community's responsibility in preventing and controlling the disease. Major findings of the survey are enumerated in **Appendix 4**. Overall, it is encouraging to note that the majority of the respondents were aware of the threat of dengue fever and its preventive measures. Nevertheless, only about 40% of the respondents indicated that they had taken anti-mosquito measures in the past 3 months. In the light of the survey findings, we will re-focus or enhance efforts on three fronts.

9. First, now that public awareness of dengue fever has been heightened, we will seek to introduce more skills and hands-on programmes to the public. In this connection, Home Affairs Department has agreed to engage the community more in hands-on mosquito control operations through promotional activities at the district level. Education and Manpower Bureau is likewise working with schools to arrange more practical sessions on prevention of mosquito breeding. DH has produced a Dengue Fever Action Diary to encourage the public to put knowledge into practice. Copies of the diary are distributed to the community and educational institutions.

10. Second, more outreaching efforts are required to disseminate dengue-related information to certain target groups and help them protect themselves. In this connection, Housing Department has agreed to help get across anti-mosquito messages to residents in public housing estates. We have also enlisted the support of Social Welfare Department, Labour Department and Home Affairs Department to do the same for retired and

unemployed persons and private tenements.

11. Third, we need to raise public awareness of the penalty for mosquito breeding. Under Section 27 of the Public Health and Municipal Services Ordinance (Cap 132), any person allowing the breeding of mosquitoes in his premises commits an offence and is liable to a maximum fine of $25,000. Around 110 prosecutions have been instituted against mosquito breeding in the first five months of this year. To prevent inadvertent breach of the law, we will step up publicity on the relevant statutory provisions, the enforcement actions taken by FEHD and the court rulings in this regard.

Concluding Remarks

12. The Government will continue to monitor the situation closely, exercise vigilance over possible dengue infections in Hong Kong and take sustainable and proactive measures to reduce the threat of dengue vector to the community.

Health, Welfare and Food Bureau
Department of Health
Food and Environmental Hygiene Department
June 2003

Appendix 1

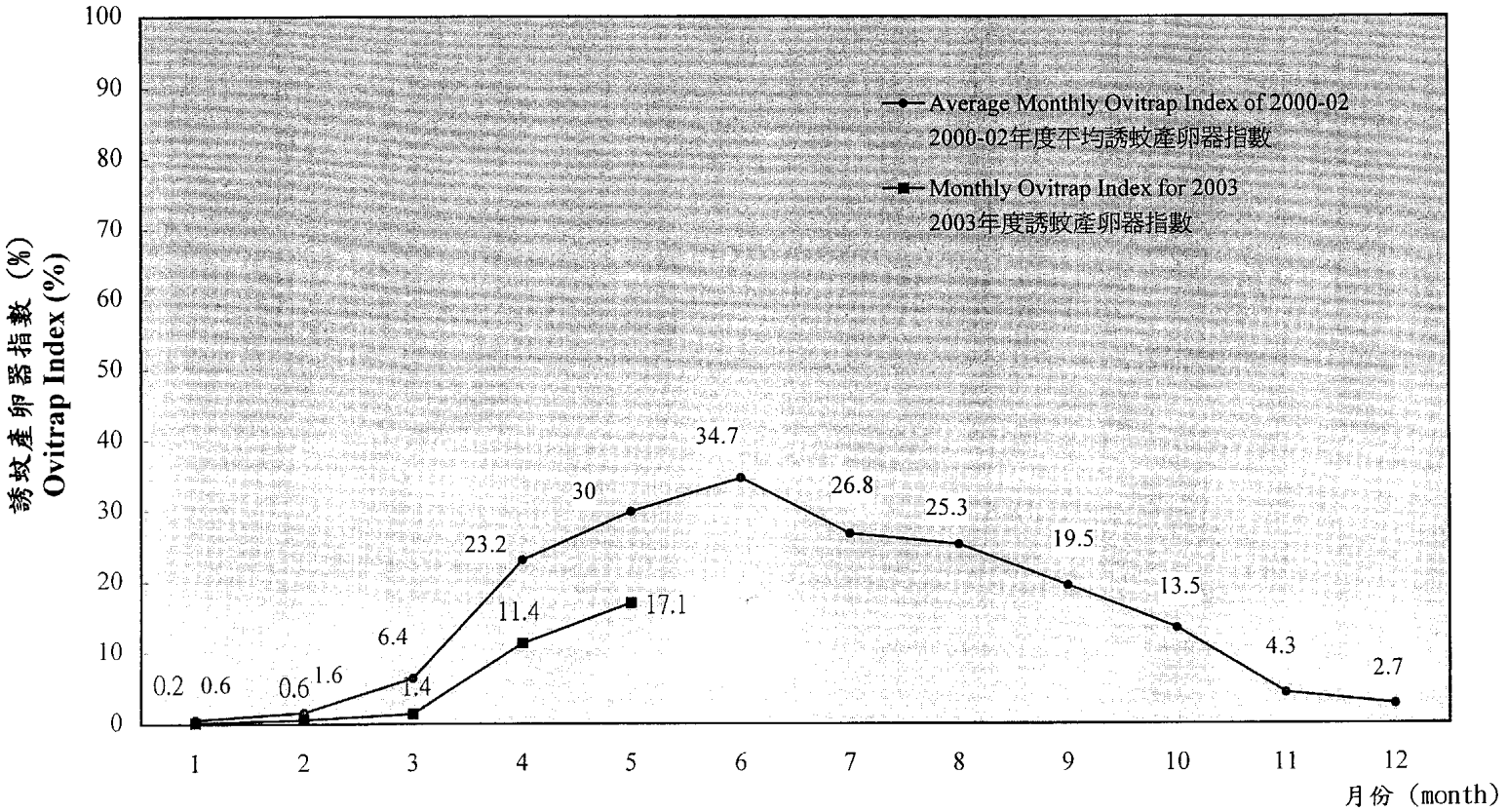
Area Ovitrap Indices from January to May 2003

	Locations	JAN	FEB	MAR	APR	May
HK Is & Out Is	Chai Wan West		5.8%		7.3%	30.8%
	Wan Chai North			6.0%	1.9%	10.4%
	Happy Valley			13.2%	3.7%	21.8%
	Sheung Wan				7.8%	8.0%
	Kennedy Town	2.1%	2.0%	2.2%	22.0%	14.0%
	Sai Ying Pun		2.2%	6.8%	8.9%	13.3%
	Aberdeen				7.8%	12.2%
	Pokfulam			1.9%	9.6%	10.9%
	Cheung Chau				36.4%	29.2%
	Tung Chung				22.2%	16.1%
Kowloon	Tsim Sha Tsui				13.0%	13.0%
	Yau Ma Tei				4.2%	4.2%
	Lai Chi Kok				1.9%	12.7%
	Kln Tong				13.5%	24.5%
	Cheung Sha Wan				7.5%	7.7%
	Kln City North				7.8%	3.9%
	Ho Man Tin				6.4%	4.7%
	Wong Tai Sin Central		4.3%		37.5%	35.6%
	Diamond Hill	2.4%			12.0%	20.8%
	Kwun Tong Central	2.2%			11.5%	11.3%
	Lam Tin			4.4%	4.4%	17.6%
NTE	Tseung Kwan O				1.6%	9.2%
	Ma On Shan				4.0%	25.5%
	Lek Yuen				9.8%	21.8%
	Tai Wai		5.8%	2.0%	10.0%	19.6%
	Tai Po North			8.5%	21.7%	17.3%
	Fanling				15.2%	31.1%
	Lo Wu			4.6%	26.1%	33.3%
	Sheung Shui				11.3%	20.0%
NTW	Tin Shui Wai	2.3%		4.6%	13.5%	25.0%
	Yuen Long Town				18.8%	17.3%
	Tuen Mun (S)				5.9%	5.7%
	Tuen Mun (N)			1.8%	12.7%	10.9%
	Tsuen Wan Town					3.7%
	Ma Wan				39.3%	14.3%
	Kwai Chung				22.6%	24.5%
	Lai King				10.9%	28.3%
	Tsing Yi		1.9%		8.8%	21.1%
Monthly Ovitrap Index (MOI)		**0.2%**	**0.6%**	**1.4%**	**11.4%**	**17.1%**

(blank entries stand for 0%)

Appendix 2

2000-02年與2003年白紋伊蚊誘蚊產卵器指數比較
Comparison of Monthly Average Ovitrap Index (2000-02 and 2003)



Appendix 3

Summary of Intensified Mosquito Control Measures by Relevant Bureaux/Departments

- Education and Manpower Bureau has encouraged school authorities to establish dedicated patrol teams to inspect school premises for mosquito breeding grounds and to identify major breeding sources in the vicinity of school compounds for eradication by other departments.

- Environment, Transport and Works Bureau is arranging weekly anti-mosquito inspection for all public works construction sites, road drains, roadside slopes and highways to eliminate mosquito breeding places associated with these sites/structures.

- Agriculture, Fisheries and Conservation Department has stepped up anti-mosquito inspection for all hiking trails, barbecue and recreational sites in 23 country parks and remove flowerpots, containers and rubbish in morning walkers' activity areas.

- In consultation with Clean Hong Kong District Committees, Home Affairs Department is identifying rear lanes, private streets, and other environmental hot-spots in 18 districts for inspection and anti-mosquito operations during the last week of every month.

- Housing Department is carrying out weekly inspection at 155 estates and 60-odd construction sites under its charge to eliminate mosquito breeding grounds therein.

- Lands Department will have conducted grass-cutting and rubbish clearance at over 600 identified black spots, cleared 20 hillside illegal cultivation black spots and maintained over 120 landscaped sites by the end of August 2003.

- Leisure and Cultural Services Department is conducting weekly anti-mosquito measures at all its venues including parks, garden sitting-out areas, playgrounds, swimming pools, tennis courts, beaches and

other cultural activity centres.

- FEHD is inspecting all building construction sites once weekly and has strengthened anti-mosquito measures in public places (not already covered by another department) commensurate with the ovitrap indices.

Appendix 4

Summary Findings of DH Survey on "Prevention of Dengue Fever"

The survey was conducted between 5 and 27 December 2002. A total of 3 024 people, aged between 15 and 64, were interviewed, representing a response rate of 79%. Major findings are as follows -

- The majority (96%) of the respondents were aware of the threat of dengue fever and that over 60% of them realised preventive measures through various kinds of channels.

- The respondents were asked 10 true or false questions on knowledge about dengue fever. 83% of the respondents could answer at least six questions correctly. The median number of correct answers was seven.

- It was found that less than half of the respondents knew that there was no vaccine against the disease, that dengue virus could be transmitted to its next generation, and that a fine would be imposed for those who allowed mosquito breeding by not removing stagnant water.

- Nearly all (96%) respondents knew at least one type of anti-mosquito measures. The most commonly mentioned measures were "remove stagnant water" (81%), "apply mosquito repellents on body" (31%) and "keep the environment clean" (27%).

- About 42% of the respondents said that they had taken anti-mosquito measures in the past 3 months. The most commonly practised measures were applying mosquito repellents and removing stagnant water. The main reasons for their inaction were "no need" and "no mosquito around".

- It was also found in the survey that the knowledge level of the respondents was positively related to their level of practice of anti-mosquito measures. However, the link between knowledge and

practice was not strong.

- 45% of the respondents had witnessed stagnant water removal measures undertaken in the past three months. The locations where such activities were seen included areas near home (14%), parks/recreation areas (9%), construction sites (7%), wet markets (4%), hillsides (3%) and schools (3% among students).

- 55% of the respondents were either very satisfied or satisfied with the anti-mosquito measures taken by the Government. For the rest, 40% gave an "average" rating, 5% were not satisfied and the others had no opinion. The level of satisfaction was related to the respondents' witness of any stagnant water removal. Those who had witnessed so were about 1.2 times more likely to be satisfied than those who had not.

- The majority of the respondents (78%) were of the view that the Government should continue to strengthen these measures, including cleaning of dirty spots (31%), promotion campaigns (25%) and law enforcement (4%).

- 93% of the respondents considered themselves having a role in the fight against mosquito, particularly through keeping the environment clean.

- It was also found that young people and students had better knowledge about the disease but poorer level of practice. The levels of knowledge and practice were in general lower among residents of public housing estates, and those unemployed or retired.