

Advisory Council on Food and Environmental Hygiene

Prevention and Control of Rodent Problems in Hong Kong

Purpose

This paper briefs Members on the initiatives of the Food and Environmental Hygiene Department in the prevention and control of rodent problems in Hong Kong.

Background

2. Rodents are pests that not only cause nuisance and physical damage to properties but also cause public health concern. They can transmit a number of diseases, such as plague, leptospirosis, hantaviral diseases, scrub typhus, urban typhus and spotted fever. Sustained efforts from all sectors of the community are necessary to contain the harm and nuisance brought by rodents. The table at **Annex 1** shows the number of reported cases on rodent-borne disease found in Hong Kong between 2004 and 2007.

Rodent Surveillance Programme

3. To monitor the situation of rodent infestation and to obtain a more comprehensive picture on rodent problem in public areas, FEHD has conducted territory-wide rodent infestation rate (RIR)^(Note) surveys in the public areas annually since 2000. The method of census baiting by setting baits in selected areas was used for the survey. The survey is conducted at selected localities which are either rodent trouble spots or areas likely to have rodent problems particularly those with high human activities. In each district, around 100 baits are placed twice a year at intervals of at least 50 metre to cover a sufficiently large area. The rate of baits bitten will give the district rate which is in turn aggregated and averaged to give the territory-wide one. A summary of the annual overall RIRs obtained from 2000 to 2007 is at **Annex 2**, and the annual RIRs for 19 districts for 2005 to 2007 is at **Annex 3**.

^(Note) Rodent Infestation Rate = $\frac{\text{Number of bait consumed by rodent}}{\text{Total number of bait set}} \times 100\%$

4. According to the RIR survey in 2007, all survey indices of 19 districts were at the level of 0% to < 10% of rodent infestation with the highest RIR of 9.0% obtained from Sai Kung District and the lowest RIR of 0.5% obtained from Shatin District. The annual overall RIR for 2007 was 4.8%, higher than that of 2.9 % obtained in 2006, but generally on a par with the annual RIR recorded between 2003 and 2005. In addition, it is noted that the annual territory-wide RIR recorded in recent years were significantly lower than those in 2000-2002. This indicates that in overall terms, rodent problem in the public areas is largely under control.

Anti-rodent Measures

5. When the RIR survey gives a rate greater than 10%, FEHD will carry out rodent disinfection operations covering the entire area under survey. For areas with RIR at or greater than 20%, a special rodent control operation programme would be implemented by a joint task force involving relevant government departments. Poisonous baiting, which is the commonly used method in other cities and countries to supplement environmental means to control rodents, is mainly used for rodent disinfection as this is a more efficient and effective while safe method. Trapping, which is a relatively inefficient rodent disinfection method with limitations including those caused by the behaviours of rodents such as their neophobic behaviour, will be used when the use of poisonous bait is strongly objected by the party concerned.

6. Rodent control has been an important area of work for FEHD. In addition to implementing rodent control measures on a regular basis to maintain environmental hygiene, FEHD also organizes annual territory-wide interdepartmental Anti-rodent Campaigns to raise public awareness and coordinate community efforts to tackle this problem. The Campaign features specific kinds of environment (biotope) where dedicated rodent control, publicity and educational efforts are made by relevant government departments. The number of rodents collected, rat holes destroyed and warnings issued during the anti-rodent campaigns in the past 3 years are summarized in **Annex 4**. The target biotopes from 2000 to 2008 are summarized in **Annex 5**.

Anti-rodent Campaign 2008

7. To sustain active community participation in rodent prevention and control, FEHD has rolled out the interdepartmental territory-wide Anti-rodent Campaign 2008 in two phases under the slogan of “Prevent Disease Eliminate Rodent Nuisance” / “防鼠工作做得好 鼠患問題自然冇”.

Promotion Phase of the Anti-rodent Campaign 2008

(7 January 2008 to 1 February 2008)

8. During the Promotion Phase of the Campaign, the target biotopes were markets/market buildings and their surroundings, and other rodent problematic spots identified by district pest control staff of FEHD. 1 827 dead and 246 live rodents were collected in the territory. 758 rat holes were destroyed and 936 warnings on rodent infestation were issued.

9. A census baiting study was conducted at selected markets/market buildings which were the targeted biotope of the Promotion Phase of the Campaign to detect rodent activities so as to evaluate the effectiveness of the rodent control operations. The RIR decreased from 10.5% before the commencement of the Promotion Phase to 7.7% after the completion of the Promotion Phase.

Enhancement Phase of the Anti-rodent Campaign 2008

(13 May 2008 to 8 August 2008)

10. In the light of the recent public concern on rodent infestation, FEHD will advance the launch of the Enhancement Phase originally scheduled for July 2008 to May 2008 and extend the Campaign period to 12 weeks (from 4 weeks), with a view to enhancing and sustaining the overall effectiveness of rodent preventive and control work in the district. As a prelude to the Enhancement Phase, advisory letters and pamphlets were issued to licensed food premises and 3 thematic talks for the food trade will be held in April 2008 to disseminate rodent control advice. During routine inspections to licensed food premises, FEHD’s Health Inspectors will disseminate health education messages and advice on rodent control and measures to enhance hygiene standard of the premises. Advisory letters and leaflets on rodent preventive and control measures will also be issued to stall holders of markets and hawker fixed pitches to

arouse their awareness of the importance of rodent prevention and control work.

11. To maximise the impact of the Campaign, the target biotopes of the Enhancement Phase will be extended to cover -

- (i) Markets / market buildings and their surroundings
- (ii) Fixed pitch hawker stalls / hawker bazaars and their surroundings
- (iii) Licensed food premises and associated rear lanes
- (iv) Cargo handling areas and their peripheries
- (v) Other rodent problematic spots identified by district pest control staff of FEHD

12. During the Enhancement Phase, we will step up control measures and publicity efforts. There will be two rounds of rodent control operations to enhance and sustain the overall effectiveness of rodent preventive and control work in markets, hawker fixed pitches, public cargo working areas and public places over the territory. Pest control staff of FEHD and relevant departments such as the Agriculture, Fisheries and Conservation Department, the Drainage Services Department, the Highways Department, the Home Affairs Department, the Housing Department, the Lands Department, the Leisure and Cultural Services Department and the Marine Department, etc. will provide technical assistance to the management of target biotopes, and will monitor and follow up on rodent problems in areas under their jurisdiction. The parties concerned will also be advised to improve and upkeep the environmental hygiene condition, to adopt proper storage practices and to rectify structural defects to guard against rodent infestation. Pest control staff of FEHD will also carry out systematic rodent surveys and disinfestations in public places around target biotopes and known black spots. Particular attention will be given to places such as rear/side lanes and vacant lands adjacent to the target biotopes, flowerbeds, refuse chambers and store rooms. Poisonous baiting stations and rodent cage traps will be set as appropriate. To eliminate rodent harbouring places in public places, FEHD will enhance cleansing services and refer defects detected in roads/lane surfaces, surface channels and gratings to the Highways Department for prompt remedial measures. In conducting regular inspections to licensed food premises, Health Inspectors will take enforcement actions against the operators if rodent infestation is detected.

13. We will produce new APIs and broadcast them through radio and television to raise community awareness of the importance of rodent prevention and control and mobilize community resources. The same messages will also be disseminated widely through posters, pamphlets and banners displayed in public places, FEHD's homepage and VCDs/DVDs distributed to the management of markets. A series of publicity and education activities will be organized during the Enhancement Phase, including exhibition at FEHD's Health Education Exhibition and Resource Centre, thematic talks, etc.

14. Government departments represented in the Inter-departmental Working Group on Pest Prevention and Control will also play an active role in the Campaign through eliminating rodent problems in places under their charge and solicit community support for the campaign through their networks. District Councils and community groups will also be invited to participate in the Campaign by organizing anti-rodent activities at the district level.

15. The effectiveness of the 2008 Campaign will be assessed by means of census baiting before and after each phase of the campaign in addition to the regular territory-wide RIR surveys. The data collected will provide useful reference for mapping out anti-rodent directions and strategies.

Advice Sought

16. Members are invited to note and comment on the paper.

Food and Environmental Hygiene Department
April 2008

Annex 1

Number of reported cases on rodent-borne diseases

Disease Year	Plague	Urban typhus	Leptospirosis	Hantaviral disease	Scrub typhus	Spotted fever	Total
2004	0	6	6	3	12	17	44
2005	0	8	7	2	30	12	59
2006	0	4	3	2	20	7	36
2007	0	3	10	1	15	13	42

**Annual Overall Rodent Infestation Rates
in Hong Kong (2000 - 2007)**

Year	2000	2001	2002	2003	2004	2005	2006	2007
Rodent Infestation Rate	16.0%	8.8%	9.0%	5.6%	4.1%	4.4%	2.9%	4.8%

Annual Rodent Infestation Rates for Districts (2005 - 2007)

District	2005	2006	2007
Central /Western	4.7%	1.5%	7.5%
Eastern	1.5%	1.8%	3.2%
Southern	3.1%	4.2%	6.0%
Wan Chai	6.0%	5.2%	8.5%
Islands	2.7%	7.3%	6.6%
Kowloon City	3.1%	2.6%	3.6%
Kwun Tong	4.4%	5.6%	5.3%
Mong Kok	9.0%	1.7%	4.7%
Sham Shui Po	4.3%	1.2%	3.9%
Wong Tai Sin	3.1%	1.6%	3.0%
Yau Tsim	6.6%	4.3%	3.0%
North	5.3%	3.9%	5.9%
Sai Kung	4.1%	2.0%	9.0%
Shatin	3.6%	2.8%	0.5%
Tai Po	4.6%	0.5%	3.9%
Tsuen Wan	5.6%	3.3%	5.9%
Tuen Mun	3.2%	3.6%	5.4%
Yuen Long	3.0%	4.4%	5.3%
Kwai Tsing	4.7%	1.2%	1.7%
Annual Rodent Infestation Rate	4.4%	2.9%	4.8%

Summary on rodents collected, rat holes destroyed and warning issued during anti-rodent campaigns (2005-2007)

Year	No. of dead rodents collected	No. of live rodents collected	No. of rat holes destroyed	No. of warning issued
2005	4415	250	2648	317
2006	3877	290	1996	601
2007	3358	236	1534	1337

Target Biotopes of Anti-rodent Campaigns from 2000 to 2008

Year	Featured Biotope
2000 – 2001	<ol style="list-style-type: none"> 1. Markets 2. Construction sites
2002	Licensed food premises
2003	Residential buildings
2004	Cargo handling areas
2005	Shopping centres
2006	Rural villages
2007	Old tenement buildings built before 1970 which are not managed by building management companies
2008	<ol style="list-style-type: none"> 1. Markets / market buildings 2. Fixed pitch hawker stalls / hawker bazaars 3. Licensed food premises and associated rear lanes 4. Cargo handling areas